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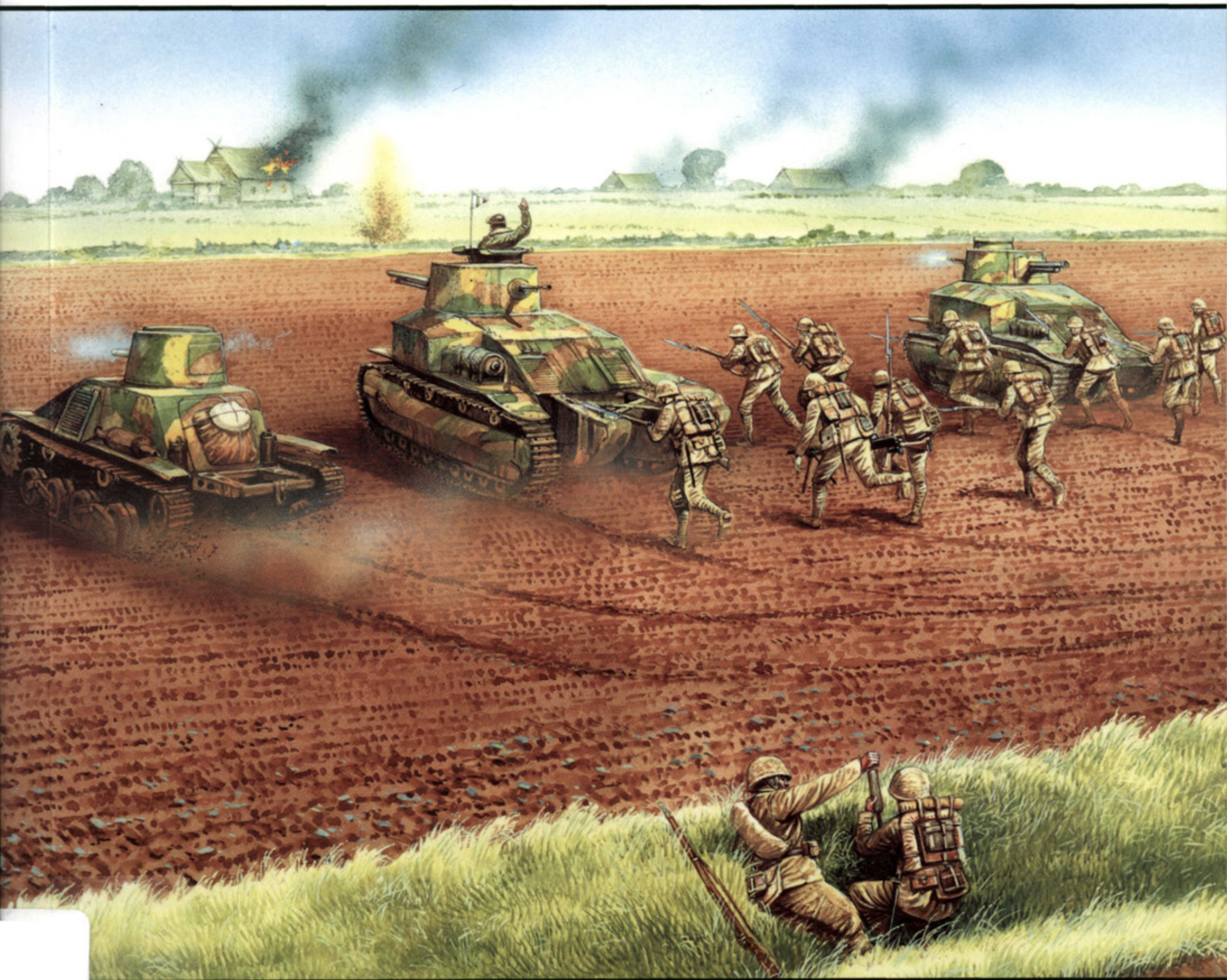
World War II Japanese Tank Tactics



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Illustrated by Peter Dennis

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OPPOSITE **Crews of Type 97 medium tanks training at the Korosuna Tank School in Chiba Prefecture; note the commander's hand-held signal flag. The crewman standing on the track guard wears a Type 92 protective helmet and the standard summer-weight tanker's coverall, with the puttees and ankle boots of the regulation all-arms service uniform.**

WORLD WAR II JAPANESE TANK TACTICS

INTRODUCTION

Japan had acquired a few British Whippet tanks in 1918, but made very little use of them; they were assigned to the Infantry School, though two were deployed to Vladivostok at the end of the Russian Civil War.[1] The acquisition of 13 French Renault FT light tanks the following year proved to be more useful. These were assigned to the 1st Tank Unit of the 12th Division in 1925, and in 1932 some were sent to Manchuria, where they saw action against the Red Army. Upgraded NC27 Renaults were purchased during the 1920s, and were known in Japanese service as the Renault "Otsu-Gata."

Japan considered purchasing other foreign tanks, but only the obsolete Renault FTs were available. Despite their lack of experience, the Japanese Army's Technical Bureau was directed to commence development of a light tank in 1925. The first prototype was too heavy, but a second design was developed, resulting in the Type 89 (1929). This weighed over 10 tons, so was reclassified as a medium tank; production did not begin until 1931. During this same period Japan purchased a British Vickers light tank for study, and a valuable lesson was learned from this tank when its gasoline engine caught fire – this convinced the Japanese to engine their tanks with less easily ignitable diesels.

The first mass-produced tank, the Type 89B, was fielded in 1934. The gasoline-engined Type 94 tankette was fielded in 1935; this was provided with a small, open-top, fully-tracked trailer of ¾-ton capacity, enabling it to deliver ammunition and supplies to frontline units. The tankette was followed by the Type 95 Ha-Go light tank, although limited production of the Type 92 Jyu-Sokosha cavalry tank had already been undertaken. Production of a new medium, the Type 97 Chi-Ha, began in 1938. A new diesel-engined tankette began production in 1939; a trailer was not provided, as it was intended more as a reconnaissance vehicle. Later, heavier up-gunned tanks were developed, but these saw no combat, being reserved for the defense of the Home Islands.[2]

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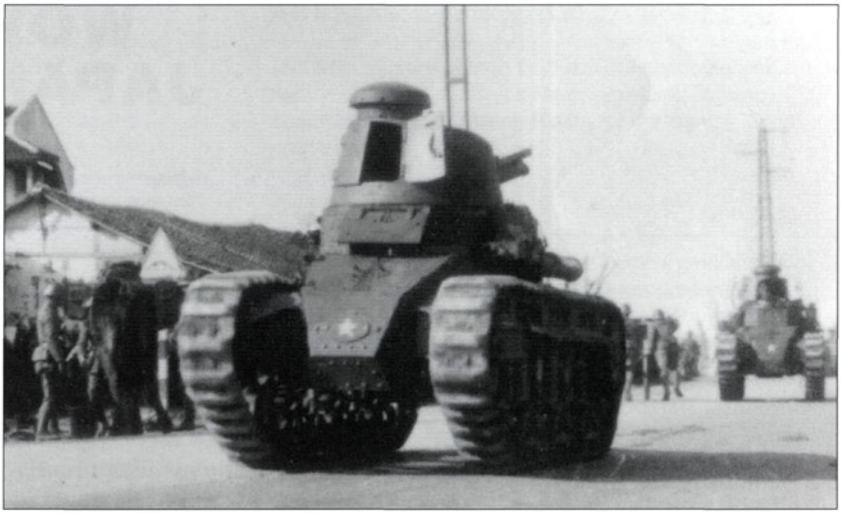
[1] See Osprey New Vanguard 83, *Armored Units of the Russian Civil War: White & Allied*; and 95, *Red Army*

[2] For a detailed discussion of Japanese armor, see Osprey New Vanguard 137, *Japanese Tanks 1939-45.*

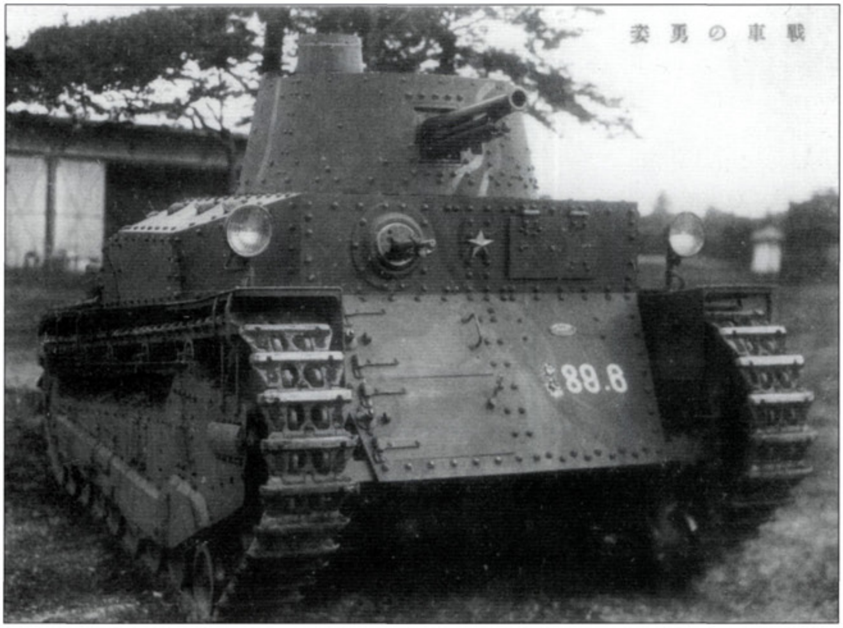


French-made Renault NC27 light tanks of the 1st Special Tank Company, photographed in Manchuria. This import, with a 3.7cm gun and a crew of two, was the first tank to see action in Japanese service, near Harbin in January 1932, and the following month during the "Shanghai Incident."

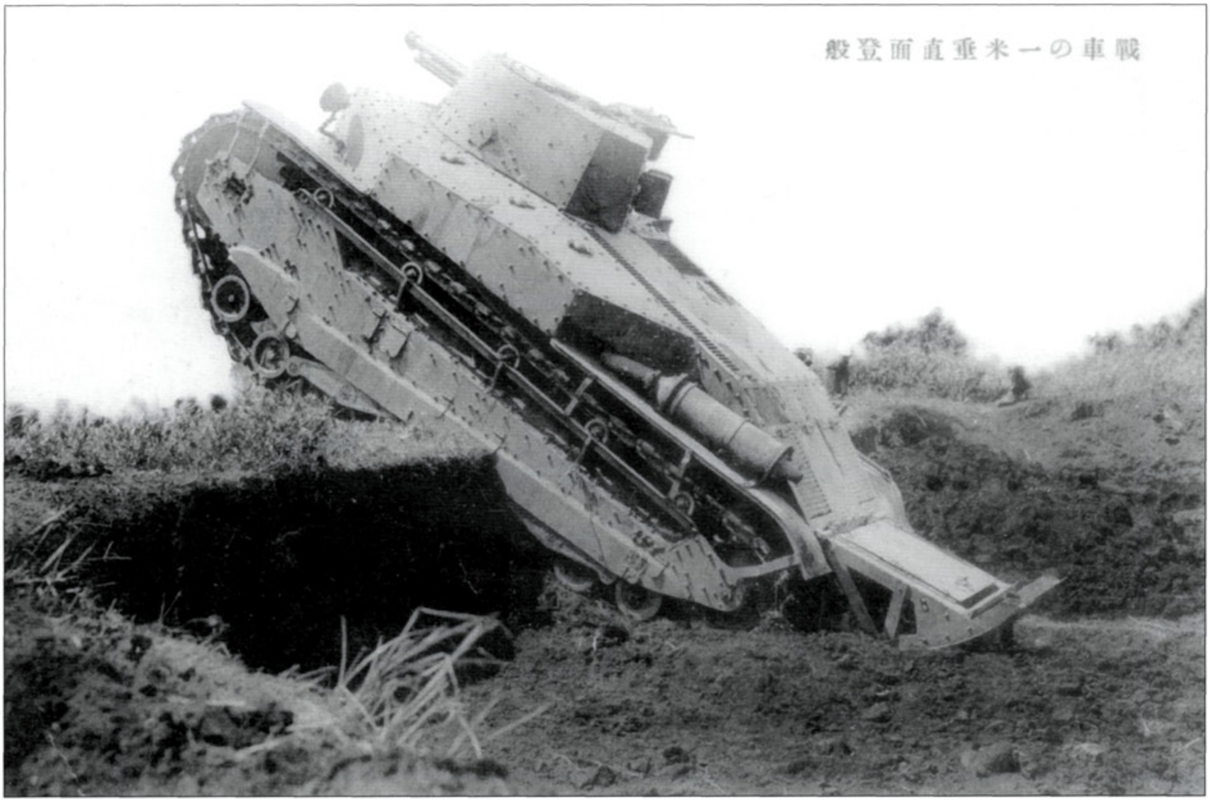
1st Independent Mixed Brigade

From the late 1920s onward the mechanized forces being created by Britain and France were studied by Japan, and in 1934 the Imperial Japanese Army (IJA) also created a mechanized unit, the 1st Independent Mixed Brigade. This small combined-arms formation consisted of the 3rd and 4th Tank Battalions, truck-mounted infantry and artillery battalions, a reconnaissance company and a motorized engineer company. When the brigade was mobilized for service in China in 1937 the 3rd Tank Bn was undergoing reorganization as a regiment, so the brigade committed only the 4th Tank Bn during the campaign.

The difficult terrain in China proved troublesome; the early tanks were slow and breakdowns were frequent, preventing them from keeping pace with the mobile infantry. However, the worst problem was a lack of understanding of the capabilities and limitations of



Type 89A medium tank armed with a 5.7cm Type 90 gun and a 6.5mm Type 91 bow machine gun; note the early "saucepan"-type cupola. The brass star centered between the MG mount and the driver's plate was the standard identification symbol of the Imperial Japanese Army.



A Type 89A Ko medium tank of a late 1932 pattern (there was constant development of this type); note the machine-gun port in the turret rear covered over. Here the ditching trail, intended as a trench-crossing aid, may actually hamper the tank's ability to climb obstacles. In the field, it was at least a useful place to tie on extra stowage.

mechanized units on the part of conservative generals. During the 1937 operations in Quhar province in the north the Quhar Expeditionary Army commander, Gen Tojo, dispersed the brigade's assets widely in the infantry support role. When the brigade commander, Col Sakai, protested the order to Gen Tojo he was criticized for insubordination, and relations between the high command and the brigade were extremely poor thereafter. After returning from China, Sakai was dismissed and the Kwantung Army disbanded the independent brigade. The former brigade's tank regiments were deployed under the 1st Tank Group that was formed in its stead. This was a pure tank unit, and the tanks were again relegated solely to infantry support when temporarily attached to infantry formations. At the Halka River and Nomonhan on the Manchurian/Mongolian border in July–September 1939, the Kwantung Army was defeated by Soviet Red Army forces heavily supported by armor. The Manchurian plains were ideal tank country, allowing the conduct of sweeping maneuvers and envelopments; but since they lacked a functional combined-arms capability the Japanese armor units were not used to advantage.

Armored Forces

Even after Nomonhan many IJA generals refused to admit the superiority of armored forces, or that the infantry could not fight the Soviets alone. They clung to the belief that this had been a small local battle from which the innate superiority of armor could not be deduced. However, the whirlwind success of the German armored forces in Poland and France astonished even the most conservative Japanese generals. The German

Army had long been a model for the IJA and was much admired by many Japanese officers. In the wake of this massive demonstration the importance of armor could no longer be doubted, and there were calls for the IJA's armored forces to be reorganized and expanded.

In April 1941 the armor branch was established as a distinct entity within the Army – previously, tank forces had belonged to the infantry branch. Prior to the reorganization the cavalry branch had vied to take control of the armor; now it was itself absorbed into the new armor branch. The first chief of the armor branch was Gen Shin Yoshida, who, as chief of the cavalry, had pressed strongly for a reorganization of the armor. Though the high-level structure was reformed, the actual reorganization of armored forces was delayed until the southern conquests that opened the Pacific War were completed. Tank forces returned from the south to Manchuria, where three tank divisions were organized in June 1942. In July the Armor Army (*Kikogun*) was formed in Manchuria, with two tank divisions and a tank group.

UNIT ORGANIZATION

Besides light and medium tanks, gun tanks[3] and tankettes, tank units were provided with numerous motorized vehicles. Trucks might be of any model, including commandeered civilian makes, and few IJA trucks had all-wheel drive. Cars included normal passenger sedans as well as jeep-like Type 95 field or scout cars. Type 97 motorcycles, mostly with sidecars, were used by couriers and for liaison.[4]

The tank regiment

Initially the tank battalion (*Sensha Daitai*) was the basic tank unit, but they were reorganized into regiments in 1938; thereafter the tank regiment (*Sensha Rentai*) was the basic operating unit, although it varied in internal organization. The battalion-size regiments consisted of 700–850 troops, but exceeded 1,000 in some cases, with 30-plus between 50-plus tanks. They were usually commanded by a full colonel or occasionally by a lieutenant-colonel. Companies were commanded by captains or majors, but sometimes by lieutenants, while sub-lieutenants commanded platoons. All these officers doubled as tank commanders; the other tank commanders were sergeants. The regiments included integral maintenance, supply and medical personnel, making them more self-sufficient than the old battalions. The three or four tank companies might have light, medium, or mixed types. Some units had only two tank companies; usually there were two or three medium companies and one light, but some regiments converted the light company into a medium company; assigned a light platoon to each company; or eliminated the light company altogether. A few regiments were completely equipped with light tanks. Company HQs usually had one or two light tanks or tankettes and one medium tank (if a medium

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[3] This term indicates tanks with low-velocity guns optimized for HE ammunition for infantry support – in Allied parlance, "howitzer" tanks. The provision of planned specialist tanks for this role was hardly achieved, so existing models were retained in this role while upgunned tanks for the AT role were introduced.

[4] Most Japanese tanks, vehicles and equipment items discussed in this work were designated in the Type 90 series; this referred to the Japanese year. To determine the Western year, simply read "9" as "3"; for example, Type 95, for Japanese year 2695, translates to 1935; and Type 1, for Japanese year 2701, indicates 1941.

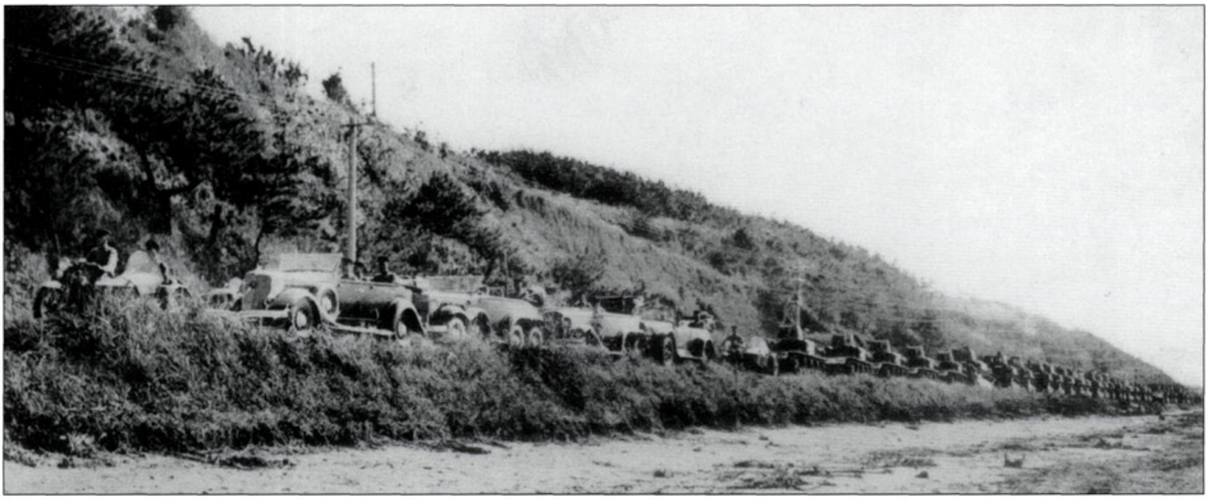
Tank crewmen pool their resources for lunch during the "Nomonhan Incident" of summer 1939; their padded helmets give some protection against the relentless sun of the Asian steppe. In the foreground is a Type 89 medium tank; in the background is a Type 97 – one of only four then serving with the 1st Tank Group on the Mongolian border – and several regimental command cars.

company). Prior to the war a tank platoon might have four or five tanks, but three-tank platoons were much more common later. The regiment had a truck-borne maintenance company, and each tank company had a motorized train. This typically consisted of four NCOs headed by a sergeant-major and about 20 enlisted men – including a few mechanics – with eight trucks hauling ammunition, fuel drums, supplies, baggage and tools. (Plate E depicts a typical tank company in visual form.)

The organization of tank regiments in the early days was not standardized; the following is an early example:

4th Tank Regt (1939)
Regimental HQ
81 men; 2× Type 95 light tanks, 2× Type 94 tankettes
1st Light Tank Company
80 men; 9× Type 95 light
2nd Light Tank Company
80 men; 9× Type 95 light

The 2nd Tank Regt undertaking a road march in the 1930s; in the lead is the regimental HQ, with a motorcycle/sidecar combination and a collection of four- and six-wheel Type 93 passenger cars.



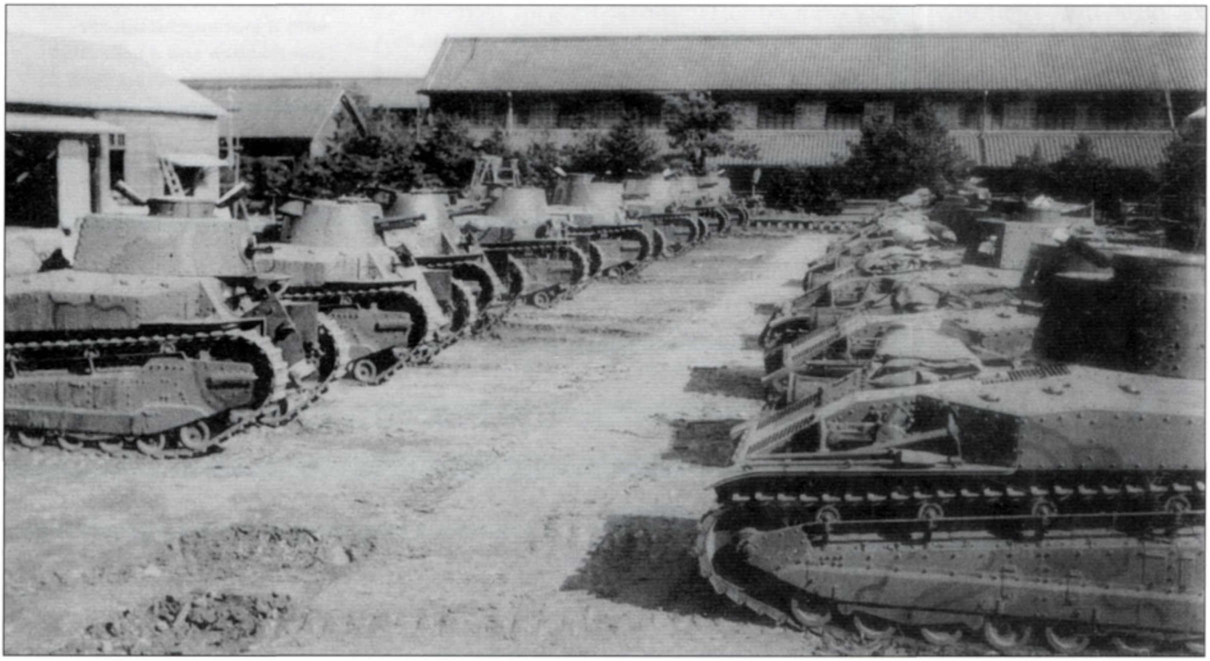
3rd Light Tank Company
81 men; 9× Type 95 light
4th Medium Tank Company
111 men; 8× Type 89 medium tanks, 2× Type 94 tankettes
Regimental Train
128 men; 5× Type 95 light
Total strength: 561 men

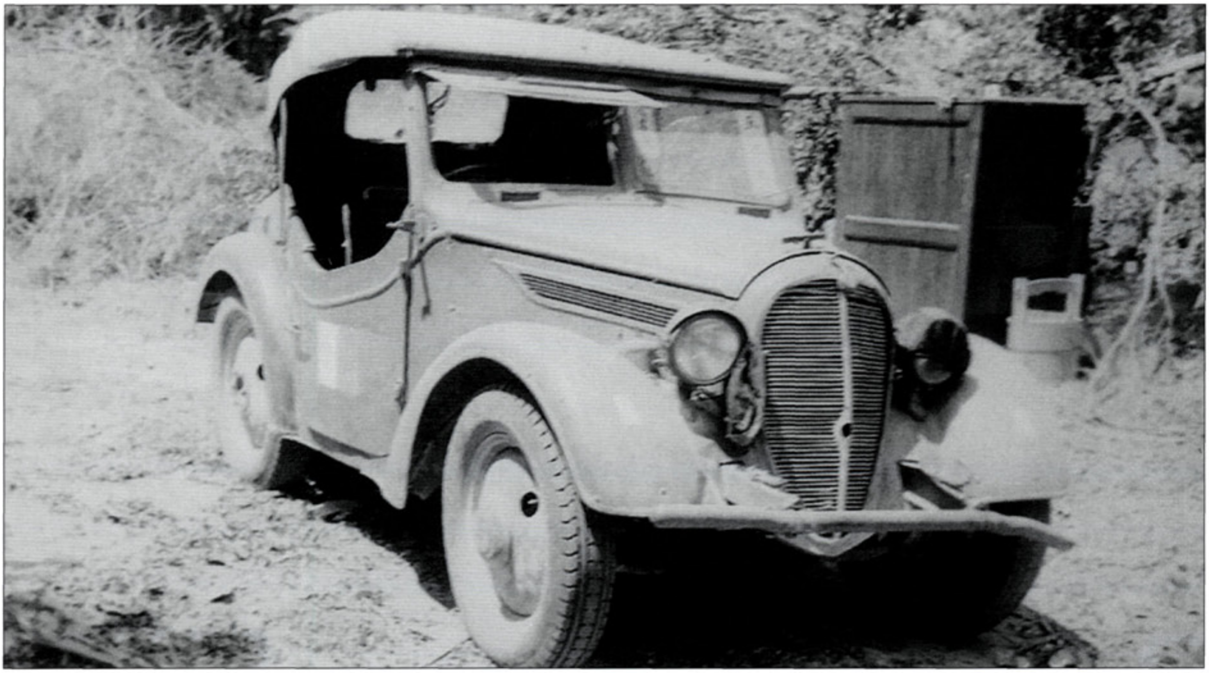
In the early 1940s, most of the tank regiments were standardized as follows, though specific models of tanks varied, and some units differed in structure:

Tank regiment (1941)
Regimental HQ
2× Type 95 light tanks, 1× Type 97 medium
Light Tank Company (1st)
13× Type 95 light
Medium Tank Companies (2nd–4th Cos)
each 10× Type 97 medium, 2× Type 95 light
Maintenance Company

By 1940, 15 tank regiments had been raised, numbered 1st–15th. In 1941–42 seven more regiments were created (16th–19th, 22nd–24th), and another nine in 1944 (25th–30th, 33rd–35th). In 1945, 15 further regiments were activated (36th–48th, 51st, 52nd). Many, but not all of these late-war units were reinforced regiments, and were assigned either to the 4th Tank Div or to independent tank brigades. The structure below was an ideal, for regiments that would have been employed for the defense of the Home Islands; in practice many did not achieve this strength, and received older tanks:

Type 89 Ko medium tanks of the 2nd Tank Regt at its base at Narashino, Chiba Prefecture, in the mid-1930s. Under magnification, three different turret variants can be made out.





The Type 95 Kurogane 4x4 scout car was used for reconnaissance, liaison and command by tank unit headquarters.

Reinforced tank regiment (1945)
Regimental HQ
85 men; 3× Type 97 Improved medium tanks, 1× Type 95 light, 1x passenger car
Medium Tank Companies (x2)
each 114 men; 10× Type 97 Improved medium, 2× Type 95 light
Gun Tank Companies (x2)
each 119 men; 10× Type 3 medium, 2× Type 95 light
Self-propelled Gun Company
152 men; 6× 7.5cm or 10cm Type 1 SP guns, 4× APCs
Duty Company
368 men; 1× Type 95 light, 8× APCs;
292× rifles, 10× LMGs, 10× grenade-dischargers, 4× flamethrowers
Maintenance Company
129 men; 2× Type 97 Improved medium, 1× Type 95 light, 10× trucks, 2× light repair vehicles
Total strength: 1,200 men

From 1940 to 1941 existing cavalry regiments were converted into reconnaissance regiments or divisional reconnaissance units; these were motorized, using trucks and tankettes. The typical organization of these 650-man units was as follows:

Reconnaissance regiment/unit (c.1941)
Regt/Unit HQ
1st & 2nd Motorized Companies
each 200x infantrymen
3rd & 4th Tankette Companies
each 8× Type 94 or Type 97 tankettes
Maintenance Platoon
Signal Platoon

Crewmen perform routine maintenance on their Type 95 Ha-Go light tanks at their base motor pool. (Katsumi Nakamura)

Tank groups and divisions

To control multiple regiments, the 1st and 3rd Tank Groups (*Senshadan*) were raised in 1938–40 in Manchuria, while the 2nd was organized in 1941 in Japan for the Malaya campaign. A group consisted of three regiments, with a company-size supply train (140× trucks) and a small maintenance unit. The group provided administrative and logistical support, but it had inadequate capability for tactical command-and-control, could provide only limited maintenance support, and had no organic infantry, engineer or fire support. The group was thus far from being the combined-arms formation so necessary for effective armor operations. Proven inadequate, the groups were absorbed into the new tank divisions in 1942.

In order to provide a more effective and self-contained combined-arms formation, the 1st–3rd Tank Divisions (*Sensha Shidan*) were activated in Manchuria in mid-1942, with the mission of facing the Soviet forces across the border in Siberia. The 4th Tank Div was activated in Japan in July 1944 for the defense of the Home Islands. Each division had two tank brigades (*Sensha Ryodan*), each with two tank regiments; regimental composition varied between divisions. The official TOE or establishment of a division is summarized in the panel on page 13.

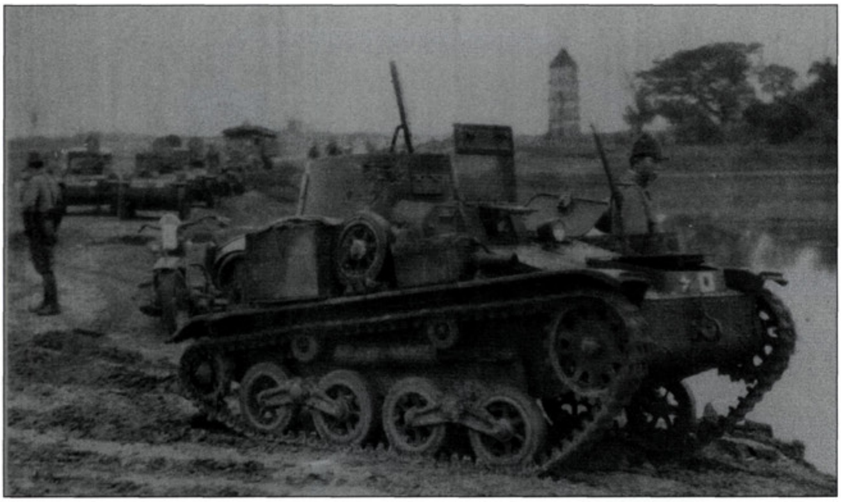
The division was effectively organized as a combined-arms formation with balanced support, although the mobile artillery regiment (*Kido Hohei Rentai*) was equipped with truck-towed rather than self-propelled weapons. Another flaw was the high ratio of tanks to infantry. The US, Britain and Germany for the most part found that an even balance of tanks to infantry – or even a higher ratio of infantry – was preferable; but the Japanese division had three infantry battalions and four battalion-size tank regiments. It was intended that the mobile infantry regiment (*Kido Hohei Rentai*) should be equipped with the fully-tracked Type 1 Ho-Ki armored personnel carrier and the Type 1 Ho-Ha

Soldiers of the 1st Tank Div Engineer Unit in Manchuria pose beside their Type 1 Ho-Ki armored personnel carriers. This full-tracked vehicle had a crew of two and could carry 13 passengers; it saw service both in China and in the Philippines. (Osamu Shimoharaguchi)

halftrack; in reality they had few if any of these vehicles, and most relied on trucks. For example, the 2nd Tank Div's 2nd Mobile Infantry Regt in Manchuria received 17× Type 1 Ho-Ki APCs, 57× Type 94 six-wheeled trucks, 7× ½-ton trucks, 6× tractors, 3× command cars, 1× passenger car, 4× repair vehicles, 2× buses and 4× trailers. Some of these vehicles were lost en route to the Philippines; once there, battle losses and breakdowns gradually eroded the regiment's mobility and capabilities.

In early 1944 the divisions lost one brigade HQ, one tank regiment, the antiaircraft unit and the reconnaissance unit, the latter being converted to an independent tank regiment; the single remaining brigade had three tank regiments. The armor composition of the four divisions was as follows; divisional units, including the mobile infantry and artillery regiments, were designated by the same number as the parent division:

1st Tank Division "Taku"
1st Tank Brigade: 1st & 5th Tank Regts
2nd Tank Bde: 3rd & 9th Tank Regts
Activated at Ningan, Manchuria, in June 1942. In March 1944 the 2nd Tank Bde was disbanded, 9th Tank Regt was deployed to the Marianas, the Reconnaissance Unit was detached and converted into 26th Tank



A company of Type 94 tankettes drawn up at a river crossing during the Nanchung operation in China. Most of the 13 independent tankette companies deployed to that theater were broken up from about 1940 onwards, their equipment being parceled out to new tank units for reconnaissance and liaison work in regimental and company headquarters elements.

Regt, and the AA Unit was deployed to China. The division transferred to the Home Islands in March 1945.

2nd Tank Division "Geki"

3rd Tank Bde: 6th & 7th Tank Regts
4th Tank Bde: 10th & 11th Tank Regts
Activated at Kungchuling, Manchuria in June 1942. In February 1944 the 11th Tank Regt was deployed to the Kuriles; in March 1944 the Recon Unit was detached and converted into 27th Tank Regt, and the AA Unit deployed to China. The division deployed to Luzon in August 1944, and was destroyed in January 1945.

3rd Tank Division "Taki"

5th Tank Bde: 8th & 12th Tank Regts
6th Tank Bde: 13th & 17th Tank Regts
Activated at Baotou, China, in December 1942. In late 1942 the 8th Tank Regt was deployed to New Britain, and 5th Bde was discontinued. The division conducted operations in central and southern China in 1944; elements formed the 6th Independent Tank Bde in July 1944.

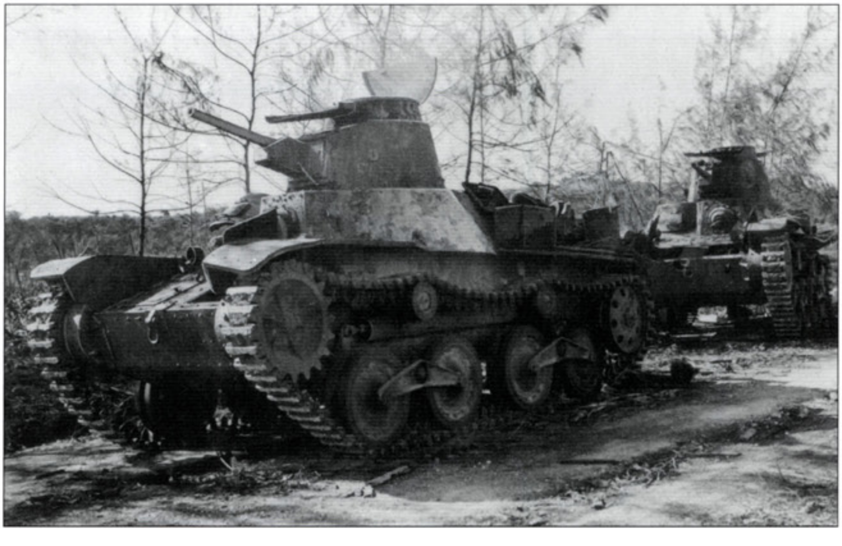
4th Tank Division "Hagane"

28th, 29th & 39th Tank Regts
Activated at Chiba, near Tokyo, in July 1944, without a brigade structure; lacked infantry and artillery regiments.

OTHER TANK UNITS

Independent tankette companies

In 1935 the IJA established tankette training centers within 11 infantry divisions. When the second Sino-Japanese War broke out in July 1937, 13 independent tankette companies (*Dokuritsu Keisokosha Chutai*) were organized at these centers and sent to China. There the Type 94 tankettes were employed not only as supply carriers, as envisioned, but also as combat vehicles; they were typically used to clear streets and place suppressive machine-gun fire on defended buildings. The 118-man



The tank company assigned to the 18th Inf Regt was a typical example of the dispersal of Japanese armor in "penny packets" on Pacific islands. Deployed to defend Tinian in the Marianas in 1944, the company had nine of these Type 95 light tanks.

Tank division (1942)
Division HQ
119 men; 2× light tanks, 7× medium tanks, 20× cars
Tank Brigade HQs (×2) each 11 men
Tank Regiments (×4 – 2 per bde), each:
1,071 men; 78× tracked vehicles, 21× wheeled vehicles:
  Tank Regt HQ 90 men; 2× light tanks, 1× medium
  Light Tank Co 110 men; 10× light tanks
  Medium Tank Cos (×3), each: 145 men; 2× light tanks, 10× medium
  Gun Tank Co 145 men; 2× light tanks, 10× gun tanks
  Maintenance Co 170 men; 3× HMGs, 76× trucks
Mobile Infantry Regiment
3,029 men; 222× tracked vehicles, 87× wheeled vehicles:
  Regt HQ 115 men
  Inf Battalions (×3), each:
  Inf Bn HQ 147 men, 1× LMG
  Inf Cos (×3), each:
  181 men; 9× LMGs, 9x grenade dischargers, 2× 4.7cm Type 1 AT guns
  Machine Gun Co 174 men; 12× HMGs, 13× trucks
  Infantry Gun Co 150 men; 6× 7.5cm Type 41 guns
  Maintenance Co 250 men, 3× HMGs
Antitank Gun Unit
444 men; 45× tracked vehicles, 87× wheeled vehicles:
  AT Gun Unit HQ 84 men, 4× HMGs
  AT Gun Co (×3), each: 120 men; 6× 4.7cm Type 1 AT guns
  Maintenance Company 100 men
Reconnaissance Unit
694 men; 91× tracked vehicles, 12× wheeled vehicles:
  Recon Unit HQ 80 men; 2× light tanks
  Light Tank Co (×3), each: 120 men; 10× light tanks
  Gun Tank Co 140 men; 10× gun tanks
  Mobile Inf Co 150 men; 3× 3.7cm Type 94 AT guns
  Maintenance Co 100 men; 9× LMGs, 12× trucks
Mobile Artillery Regiment
1,056 men; 89× tracked vehicles, 73× wheeled vehicles:
  Mobile Arty Regt HQ
  Field Gun Bn
  575 men; 18× 7.5cm Type 90 guns in 3 companies
  Howitzer Bns (×2), each:
  440 men; 12× 10cm Type 91 howitzers in 3 companies
Antiaircraft Unit
1,014 men; 105× tracked vehicles, 63× wheeled vehicles:
  AA Unit HQ
  Machine Cannon Cos (×3), each: 6× 2cm Type 98 MCs
  AA Gun Co (×2), each: 4× 7.5cm Type 88 AA guns
Engineer Unit
1,149 men; 122× tracked vehicles, 50× wheeled vehicles:
  Engineer Unit HQ
  Engr Cos (×6), each: 140 men; 1× HMG, 1× 3.7cm Type 94 AT gun
  Maintenance Co 100× trucks
Maintenance Unit
778 men; 15 tracked vehicles, 152× wheeled vehicles:
  Maintenance Unit HQ
  Maintenance Co (×3)
Transport Unit
765 men; 106x tracked vehicles, 216× wheeled vehicles:
  Transport Unit HQ
  Transport Cos (×4)
  Maintenance Co
Signal Unit
Casualty Clearance Unit 285 men; 50× vehicles

Notes:
Light tanks were mostly the Type 95, but very occasionally Type 98 or Type 2.
Medium tanks were Type 97 Improved or Type 1.
Gun tanks were intended to be the Type 2 Ho-I, but as only a handful were produced, in practice most were Type 97 mediums.

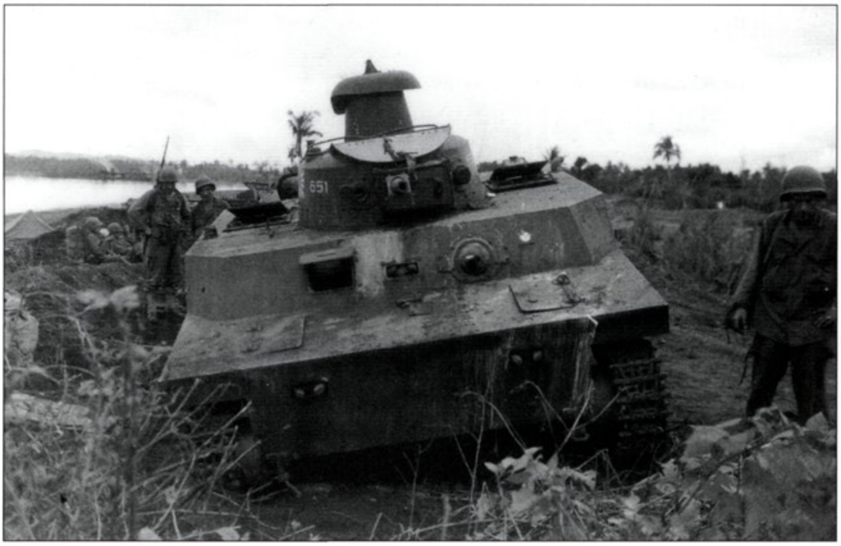
company had four platoons each of four tankettes, and one tankette in the company headquarters with two cars and four motorcycles. From the end of the 1930s many of these companies were disbanded and their assets absorbed into new tank regiments; only one independent tankette company served to the end of the war.

Independent tank companies

Independent tank companies (*Dokuritsu Sensha Chutai*) were formed from companies detached from tank regiments, the company headquarters and train being reinforced to act independently. The first was formed in 1932 and deployed to Shanghai. During the Pacific War about 12 independent tank companies were formed, and shipped to take part in the defense of Saipan and the Philippines. They were deployed individually, and most often used in static defensive positions.

Divisional tank units

From 1940, company-size tank units (*Shidan Sensha Tai*) were attached to mechanized divisions, including the 1st, 8th and 12th. They might be equipped with light tanks or tankettes. Sea operations divisions in the Pacific – termed by the Allies “regimental combat team divisions” – had an organic divisional tank unit; again, these were employed defensively on the smaller islands.



Front view of an IJN Type 2 Ka-Mi amphibious tank of the Itoh Special Naval Landing Force, knocked out when coming ashore at Ormoc on Leyte in the Philippines. The housing behind the 3.7cm gun turret is the engine ventilator. Large boat-shaped bow and stern sponsons were attached for water movement, but were jettisoned after coming ashore.

Independent tank brigades

The 1st to 9th Independent Tank Brigades (*Dokuritsu Sensha Ryodan*) were organized in 1944–45; the 1st and 9th were deployed in Manchuria, and the others on the Home Islands. Lacking infantry and artillery (see panel on page 15), their mission was to serve as counterattack forces supporting infantry divisions; they were thus akin to the old tank groups.

Cavalry brigade tank units

When the 1st and 4th Cavalry Bdes were sent to Manchuria in 1932 their motorcar units were equipped with some armored cars. In 1933 Type 92 Jyu-Sokosha cavalry tanks – MG-armed light tanks capable of higher speed – were deployed in these units to begin replacing the armored cars. In 1937 the cars were replaced by Type 95 light tanks, and the units were redesignated as tank units (*Kihei Ryodan Senshatai*). Until 1940 the 1st–4th Cavalry Brigades possessed tank units each equipped with seven to nine Type 95 light tanks.

When the tank divisions were organized in 1942, the tank units of 1st and 4th Cav Bdes were converted into the reconnaissance unit of the 3rd Tank Div, and the tank unit of 3rd Cav Bde became the recon unit of 1st Tank Division. Since the 2nd Cav Bde had already been disbanded in 1941, tank units disappeared from the cavalry branch. (It should be noted that the IJA had two distinct types of cavalry. One was the brigaded cavalry mentioned above, which was heavily armed, with artillery and some armor. This was separate from the divisional cavalry regiments, which later became reconnaissance regiments; these were battalion-size units organic to infantry divisions, for mounted reconnaissance.)

SNLF tank units

When the Shanghai Incident broke out in early 1932, the Shanghai Special Naval Landing Force was urgently sent Vickers Crossley armored cars imported from Britain, and employed these in the fighting.[5] After

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[5] See MAA 432, *Japanese Special Naval Landing Forces: Uniforms and Equipment 1932–45*

the Shanghai Incident, the Shanghai SNLF was reinforced with armor and formed a tank company, equipped with six to eight Type 89 medium tanks and some Japanese and British armored cars. The tanks of the Shanghai SNLF were marked with an IJN anchor symbol instead of the IJA star, and were painted overall olive drab (some Western references stating that they were painted Navy gray are incorrect). When the Sino-Japanese War broke out, the tank company was disbanded and the vehicles were attached to SNLF infantry that fought in Shanghai. The SNLF tank officers and NCOs were trained at Tateyama IJN Ordnance School on the Boso Peninsula across the bay from Tokyo, where they studied artillery as well as tanks. The school possessed a small training tank unit.

During the Pacific War the IJN developed the Type 2 Ka-Mi amphibious tank – referred to as "special craft" – and organized several amphibious tank units. SNLF tank units were also equipped with conventional armor, mostly the Type 95 light tank. In 1943 the Q Base was established on Nasake-jima, an island near Kure, for the training of amphibious tank crews; the base commander was Lt Tokuo Itoh. In October 1943 the base sent the first amphibious tank units to Rabaul and the Marshall Islands; other units were later sent to Saipan, Shimushu and Palau. In 1944 a SNLF tank unit personally commanded by Lt Itoh was formed at the base and sent to the Philippines; it landed at Ormoc on Leyte, and was destroyed there.

Independent Tank Brigade
Brigade HQ
71 men; 3× Type 97 Improved medium tanks, 2× Type 95 light, 2× APCs, 2× cars, 2× trucks
Signal Unit
139 men; 3× Type 97 Improved medium, 3× Type 95 light, 1× car, 5× trucks
Tank Regiments (×2) as in Tank Division
AA Machine Cannon Unit
421 men; 12× 2cm Type 4 twin AA machine cannons
Maintenance Unit
202 men; 10× trucks, 1× heavy & 3× light repair vehicles
Transport Unit
347 men; 72× trucks, 1× light repair vehicle

DOCTRINE

In the 1930s Japanese armor doctrine called for tanks to support the infantry. Typically, a tank regiment would be attached to an infantry division and one of its tank companies to each infantry regiment; the light tank company, if present, was retained for reconnaissance and flank security. When the infantry attacked an enemy position the machine gun was considered the main threat. The artillery was used to suppress the machine guns, but it could not shell enemy positions once the Japanese infantry had approached within 100–150 yards of the objective, for fear of endangering them as they advanced in the open. The infantry employed 7cm and 7.5cm battalion guns to cover this

Type 94 tankettes cross the Xinqiang River flowing into China's Dongting Lake, August 1941; the crews' gear is bundled up in canvas tarps lashed to the rear – note the wash basin. In China tankettes were increasingly switched away from their original role as battlefield supply-carriers as other missions were found for them – reconnaissance, screening, lines-of-communications security, street-fighting and crowd control. In the few instances when they were committed against US and Soviet forces they proved useless.

range but, being direct-fire weapons, infantry guns were vulnerable to enemy fire and lacked mobility. Other than 5cm grenade-dischargers ("knee mortars"), infantry regiments possessed no mortars unless these were attached from non-divisional sources.

The tanks solved this problem: they advanced, firing on enemy machine guns and other heavy weapons so that the infantry could overwhelm enemy positions. The tank was, so to speak, a mobile infantry gun. The late-war "gun tank" took this a step further by providing larger-caliber weapons for infantry support; this was especially required since the later medium tanks had higher-velocity guns optimized for tank-vs-tank combat.

Light tanks were intended mainly for reconnaissance, but in some instances they were the only "main battle tanks" available. They were suited for infantry support against weak opposition, and could be used for screening, as mounted cavalry had been previously.

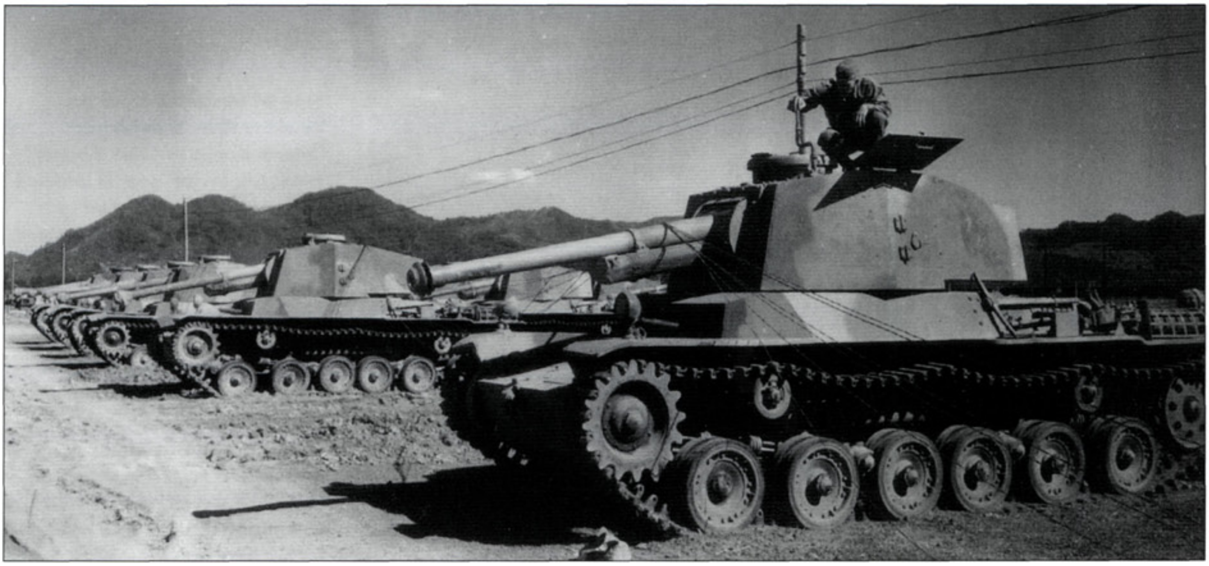
After the remarkable success of German armored forces and the IJA's decision to reorganize its armored forces, doctrine was laid down in *Kiko Sakusen Yomusho* ("Notification of Armor Operations") issued in September 1942. The points it made included:

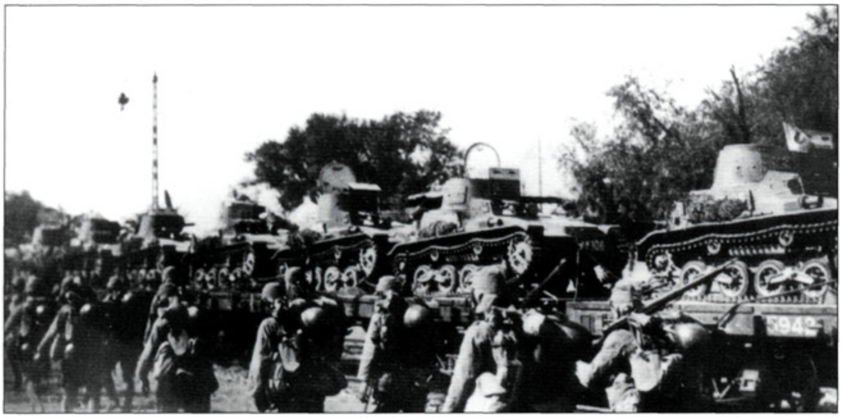
* The essence of the fight is to raid and destroy the enemy by the great mobility and offensive power [of tanks].
* Each branch should coordinate in order to assist the tank in accomplishing its duty.

These clauses clearly show that doctrine had changed: no longer an adjunct to the infantry, the armor now became the main force and other branches were expected to cooperate with tank units – as follows:

* Infantry supports the tanks; it attacks the enemy together with the tanks or in advance of them, sweeps the enemy from the positions, covers the flanks, and conducts night attacks.
* Antitank guns directly support the tanks and destroy enemy tanks.
* Artillery supports the tanks and destroys enemy artillery and positions.
* Gun tanks destroy and suppress at close range enemy antitank guns and other weapons that cannot be suppressed by artillery.

At the other end of the spectrum of Japanese armor are these Type 3 Chi-Nu medium tanks, lined up after capture in 1945. Armed with a 7.5cm Type 90 gun, the Chi-Nu – of which only 144 were built before the Japanese surrender – never saw combat. All completed tanks were held back in the Home Islands to equip the "Mobile Shock Force" for counterattacks against the anticipated Allied invasion.





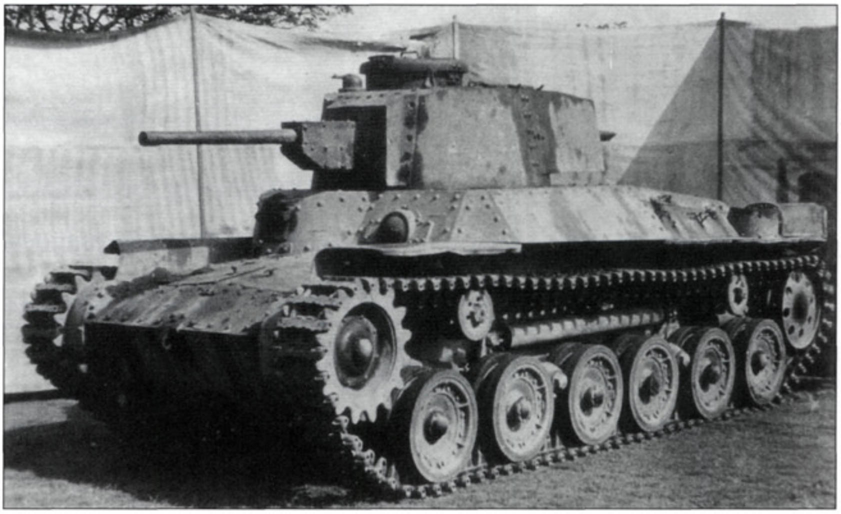
Infantrymen march past Type 94 tankettes loaded aboard railcars during the Sino-Japanese War. Rail transport, where available, was an important means of deploying armor over China's great distances; cross-country travel led to serious attrition from breakdowns, and wore out components for which spares were often unavailable. (Tomasz Basarabowicz)

The new doctrine for the armored forces supposed a war against the Soviet Union on the vast Asian plains. The USSR was the only opponent with sufficient armor that Japan expected to face; China had virtually no armor, and in SE Asia and the Pacific they expected to encounter only light American and British tanks in small numbers.

When the Pacific War broke out, tank companies and regiments were in fact detached from armored formations and deployed on remote Pacific islands, to be employed in quite a different manner from that supposed by those who devised the new doctrine. There was no single method of employing tanks on the islands, as their size and terrain showed many differences. The Solomon Islands were large, but were hilly inland, with very limited and primitive roads through dense jungle – and even these were covered with mud for much of the year; in practical terms tanks were limited to the narrow coastal plains. Japanese armor saw only limited use in the Solomons; the one attack launched during the fighting on Guadalcanal was down a beach and across a river mouth, and ended in total failure. The same situation existed in mountainous New Guinea, except that there the terrain was even more extreme.

The Central Pacific atolls were hardly more than low sandbars, with little room to maneuver and offering virtually no concealment for tanks from ground or air observation. Only small numbers of tanks were deployed to these islands; while it was envisioned that they would charge out of concealment and attack the enemy landing force on the beach, all attempts at this tactic failed, and most tanks were dug in as pillboxes. The beach counterattacks, when they were executed, were often delayed for so long that American tanks and AT weapons had been landed by the time the counterattack was launched.

The larger Western Pacific islands were hilly and overgrown with forests and dense brush, and here too the roads were limited. While there was space to maneuver, the tanks here also failed in their beach counterattacks; they were squandered by being committed piecemeal in twos and threes, or were dug into static positions inland. It was realized by this time that American tank strength, AT weapons and airpower neutralized the light armor and small numbers of the Japanese tanks employed. A major factor was that the Japanese had not expected the Americans to employ M4 Sherman medium tanks on the islands. The 2nd Tank Div was deployed to Luzon; but while some of the terrain was suitable for armor operations, the commander chose instead to assign



The Type 97-Kai Shinhoto Chi-Ha "improved new turret" medium tank. Put into production in 1942 with the new 4.7cm Type 1 main gun, this upgrading of the original Chi-Ha of 1938 was a response to the poor showing of Japanese types in tank-vs-tank combat with the Red Army in 1939. The bow machine gun is missing from this captured example.

tank regiments to defensive areas where they were dug in, in hope of avoiding American airpower.

Significant tank forces were available for the defense of the Home Islands, and had an Allied invasion taken place they might have been employed in much the same manner as was intended for them in Manchuria. Seven independent tank brigades were organized from 14 out of the 24 tank regiments, and were deployed inland, together with two tank divisions; this collection of units was known as the *Kido Dageki Butai* ("Mobile Shock Force"). According to the Japanese plan, the beach defenses would check the enemy, whereupon the *Kido Dageki Butai* would move to the beachhead and destroy the landing enemy in combined-arms counterattacks with the infantry and artillery. How effective these might have been in the face of the massed American armor, artillery, naval gunfire and airpower can only be guessed at.

TACTICS

Tank training emphasized the attack and aggressiveness; it stressed rapid decision-making, high speeds, rapid concentration of fire, concealment of intensions, and supply and repair requirements. The aggressiveness of Japanese tankers was well known; they would continue to advance even if they outran their accompanying infantry, or the infantry halted or fell behind under enemy fire. Doctrine called for tanks that found themselves too far ahead to return to the infantry lines and advance with them again, but this seldom occurred in practice. If infantry were not available, the tankers would dismount to clear obstacles themselves, and would even attack the Allied troops covering them.

Attack

In China a tank regiment attached to an infantry division might support the infantry regiment making the main attack, or a tank company might be attached to each infantry regiment. The tanks would be brought up to within 3 miles of the front line in secrecy; the surprise and shock of the unexpected appearance of armor was considered valuable. Tank unit commanders would go forward to conduct a reconnaissance of the attack routes while the crews prepared for action. Liaison would be conducted with the infantry regiment and battalion commanders, as well as the artillery, to coordinate routes to the start points, start positions, zones of advance and objectives; communications between the tanks, infantry and artillery; and actions to counterattack any enemy armor. The night before the attack the tanks moved to their start positions, covered by the noise of artillery barrages and low-flying aircraft. Japanese attacks often commenced some hours before dawn.

If attacking a strong antitank defense the tanks would be disposed in attack waves; if the defenses were light, they would be massed forward. The infantry would follow closely behind the tanks, with artillery neutralizing defenses with high explosive and smoke shells. In some instances infantrymen rode on the backs of tanks (on Peleliu, wooden rails were fixed to the backs of tanks to allow infantrymen to hang on). Tank objectives included the positions of enemy machine guns and other frontline crew-served weapons; they were to create gaps through barbed wire (engineers participated in this, with wire-cutters and demolitions); and once they broke through the forward positions, tanks would attack command posts and artillery positions.

Tanks were frequently employed in non-standard ways in order to exploit various situations. Examples from the campaigns in China included tanks breaking through the defenses at the mouth of a gorge, reconnoitering the inner defenses, and returning to friendly lines to report. Tanks conducted reconnaissance and liaison missions, and transported supplies across fire-swept areas or to isolated positions. The mobility and protected firepower of tanks were employed in economy-of-force holding attacks on enemy positions, while the supported division's main force enveloped the enemy flank. When attacking walled towns, tanks would move to the far side, creating an envelopment and engaging retreating enemy as they escaped through the back gates. Tanks were also employed in the pursuit of retreating enemy forces. Besides providing fire support while accompanying infantry, they might be employed in stationary positions to cover the infantry's advance from the rear, shelling enemy defenses.

Firing methods

IJA training stressed the importance of first-shot hits; rapid rate of fire; coordination between commander and driver, and precise commands; the rapid location of the enemy, and coordination and concentration of fires.

Usually, all three or five tanks of a platoon would fire on the same target under the command of the platoon leader; tank gun accuracy and effect were low, and the concentration of fire was critical. In the IJA tank forces there were three standard firing techniques:

Firing on the move (*Koshin-Sha*) The 3.7cm and 5.7cm main guns on Japanese tanks could be elevated freely and traversed to some extent independent of the turret, for fine aim-adjustments. Rather than using handwheels, aiming was accomplished by a shoulder plate pushed or pulled by the gunner. When firing on the move the gunner stabilized the gun to a degree by applying compensating pressure on the shoulder plate. 4.7cm and 7.5cm guns were aimed by means of handwheels owing to their heavier weight. There was no other means of stabilizing the main gun.

Dash firing (*Yakushin-Sha*) With this method the gunner prepared to fire, and orders were given for the tank to slow to a crawl. The gunner would fire as soon as the target could be acquired, and then the driver automatically dashed the tank forward to another firing position.

Firing at the halt (*Teishi-Sha*) The tank would advance; when a target was detected it would halt, acquire the target, fire, and immediately continue the advance. Tanks would individually acquire targets and fire on them, independent of platoon control.

Acknowledging their light armor, Japanese tank commanders would strive to fire from behind ridges, mounds and gullies. This was more than the usual hull-down position, with only the turret exposed, that was employed by other armies; the entire tank was completely concealed behind the ridge. The commander standing in the hatch would direct the gunner, who could not see the target, in a form of indirect fire. This was only effective against area targets in support of the infantry, being too inaccurate for point targets such as other tanks. The use of ridge lines in this manner is often found in accounts of tank battles. During the battle of Nomonhan, Japanese tanks climbed ridges to fire from hull-down positions, and then backed down the reverse slope to avoid enemy fire.

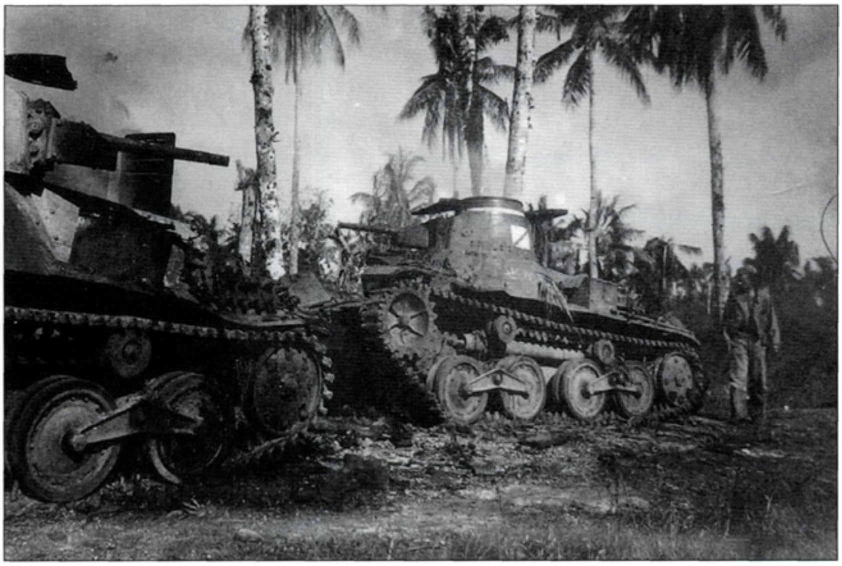
The night attack

The IJA had a long tradition of the night attack and, unlike many armies, practiced it diligently both in training and in actual combat. This was required of tanks as well. Advance routes and landmarks were reconnoitered during the day, and the routes the infantry would follow were coordinated. Tanks would normally advance in a column formation with the headlights off, but the taillight on to guide the following tank; in the night attack, drivers were required to drive with headlights off. The daytime training that drivers received in driving over rough ground greatly assisted their night driving.

The main difficulty of the night attack was acquiring and engaging targets, though the use of illumination flares and firing on enemy muzzle-flashes was effective to some degree. Observing where shells struck was another problem, as the main gun's muzzle-flash momentarily blinded the gunner. An officer at the Tank School discovered how to counter this by mere chance: by closing the eyes at the moment of firing, he could then observe the impact without being dazzled by the flash. This method of observation was taught to all tankers.

Antitank tactics

After the Nomonhan defeat at the hands of the Soviets, antitank warfare was accepted as a serious problem for the Japanese tanks. Fitted with light armor and low-velocity, small-caliber guns, Japanese tanks were at a distinct disadvantage. New tanks which could cope with Allied types were needed; however, the improved Type 3 or Type 4 medium tanks were delayed, and the Japanese had to fight on with the 4.7cm gun-armed "improved" Shinhoto Chi-Ha. This gun was only effective against the side and rear of M4 Shermans or T-34s at the closest ranges, and many Japanese tanks were armed with even less capable weapons. The Japanese developed several techniques to improve their chances in tank-vs-tank engagements:



Two Type 95 light tanks of 1st Co, 9th Tank Regt, knocked out on Guam in summer 1944; the company, with 15 to 17 tanks, had been detached from its parent regiment on Saipan. The white band around the cupola indicates a sub-unit commander's tank. That the Ha-Go, first produced in 1935, was still in combat service nine years later speaks volumes about Japan's neglect of her armored force; and the fact that sub-units were still being dispersed in what was essentially a defensive infantry support role contradicted the revised doctrine outlined in the *Kiko Sakusen Yomusho* of September 1942.

Smoke This would be provided by smoke shells delivered by artillery and mortars, smoke candles and smoke grenades. Once a smoke screen was established the Japanese tanks would move to the flanks or rear of the enemy tanks, seeking to engage them from their vulnerable angles. Smoke could also blind enemy gunners, allowing Japanese tanks to close in for close-range engagements. There are very few reported instances when smoke was used in this manner against the Americans.

Ambush The Japanese tanks would conceal themselves in ravines, broken ground or among vegetation. This was especially effective alongside roads; when enemy tanks passed they would be engaged from the flanks or rear. This was a common tactic in the Philippines.

Selection of aiming points Gunners were directed to aim at vulnerable points on enemy tanks, i.e. their tracks, bogie wheels, hatches and observation/pistol ports.

In Burma and the Philippines, "improved" Type 97-Kai Shinhoto Chi-Ha tanks did succeed in destroying a number of M3 Lees and M4 Shermans by short-range ambush or by firing on weak points. Japanese infantry would also mount suicidal close-range attacks on enemy tanks, attempting to swarm them with hand-emplaced mines and grenades.[6] This method was seldom employed when infantry were fighting in conjunction with Japanese tanks, however.

Defense

When defending on Pacific islands tanks were completely dug in, with only the turret exposed to allow all-round fire. There was a rear exit ramp, allowing the tank to either move to a prepared alternate position or to maneuver against the enemy. Large bomb craters were sometimes improved to make tank positions; at other times only a shallow position was dug and the soil embanked around it. Positions would be camouflaged with transplanted vegetation and tree limbs; the limbs could be knocked off by simply rotating the turret, or were thrown off by hand. Such tank positions were sited to be mutually supporting and might be incorporated into the defensive fire of systems of conventional pillboxes. Well-camouflaged rifle and light machine gun positions would be sited to protect the dug-in tanks from close-in attack. Even if the plan was for the tanks to counterattack the enemy landing force, they would be dug in to protect them from aerial and naval bombardment.

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[6] See Elite 124, *World War II Infantry Anti-Tank Tactics*

In China, when a tank regiment was attached to an infantry division, it was usually held in reserve and hidden in dead ground, heavy cover or among village buildings, to protect the tanks from artillery and air attack. To spoil an enemy attack the tank regiment, accompanied by infantry and supported by artillery, might be sent to raid the enemy assembly area. The tank regiment might be attached to the division's reserve infantry regiment, to conduct a counterattack. If an enemy mechanized force broke through the front lines the tank regiment might be deployed deep in the rear, and would attempt to ambush enemy tanks as they advanced beyond their own artillery support and became more dispersed. The tank regiment, with infantry riding along, might then be used to pursue the retreating enemy.

FORMATIONS

Massed unit formations were used for marches, assembly and combat maneuvering. There were not as many different formations as used in some armies, and they were kept comparatively simple. During training, exercises were conducted with sub-units changing from one formation to another rapidly and smoothly while on the move.

The order of deployment of sub-units – for example, platoons within a company – was for the first sub-unit to form the base element. A company would deploy from column to line with 1st Platoon, leading the column, on the right of a line facing the enemy, and 3rd Platoon deploying from the rear of the column to the left of the line.

Company formations

There were five basic company movement formations: line, column, step-by-step column, extended, and "T". The line (*Outai*) and column (*Jyutai*) formations were mainly used for administrative movements and parades, and might be used when moving cross-country with much wider intervals between tanks and sub-units. The column formation was also used for cross-country advances by night. The step-by-step column formation (*Heiritsu Jyutai*) saw the platoons lined up from right to left, but rather than the tanks of each platoon being in line formation they were drawn up in a column (see Plate B). The extended formation (*Sokai*) was the principal formation used for movement to combat (see Plate C1). Each platoon was deployed with its four tanks in a diamond formation or – if it had only three tanks, as was more common – in a wedge or line (see Plate B). When in open country the company would deploy with its four platoons arranged in a diamond; if there were only three platoons, the company would form a line formation with all three platoons forward.

The "T" formation (*Choji*) was employed in the attack. From right to left (facing the enemy) the company was deployed in the order 1st Platoon, 2nd Platoon, Company HQ tanks, and 3rd Platoon. The 4th Platoon followed at the rear, centered behind the 2nd Platoon and HQ

Command cars, partly camouflaged with netting, follow Type 89 medium tanks in a road column during maneuvers in Gunma Prefecture on the Kanto Plain, 1934.

tanks; from this trailing position it could maneuver to the right or left to attack an enemy flank, or to protect the company's own flank if attacked (see Plate C2). If there were only three platoons, they would be deployed in line, since it was considered more important to place as many tanks as possible in the firing line than to maintain the trailing support platoon. If there was a trailing 4th Platoon, then during the attack it might advance through the lead platoons once they penetrated the enemy defenses, to fire on pillboxes and fighting positions while the former leading tanks mopped up the frontline positions and provided covering fire.

In practice the interval between individual tanks and sub-units varied depending on the terrain, vegetation, visibility and enemy fire. During administrative moves the company train, maintenance and headquarters trucks, cars and motorcycles followed to the rear; in combat these elements would remain (preferably) outside light artillery range.

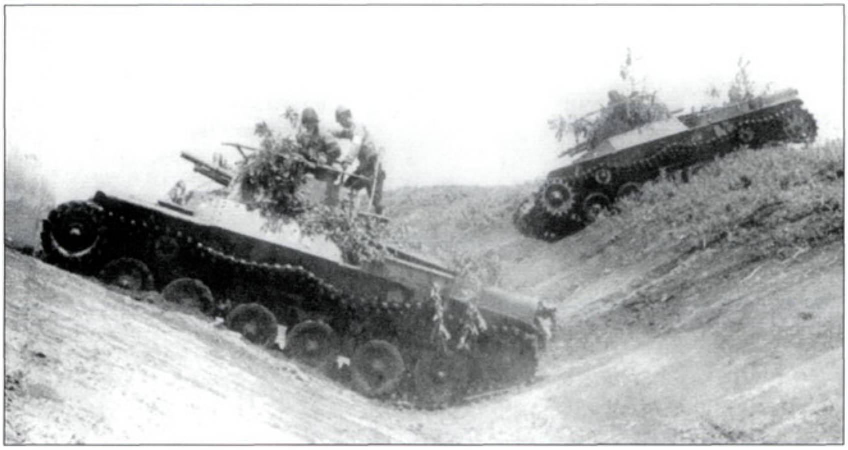
Regiment and division formations

Tank regiment and division tactics were not prescribed in the *Kiko Sakusen Yomusho* until 1942. Tank regiment formations were much like those of a company, but with companies substituted for platoons.

The tank division consisted of two tank brigades, each with two organic tank regiments plus an attached mobile infantry battalion, a 7.5cm howitzer battalion and an engineer company. Both brigades would attack together. The only division reserve was the third infantry battalion; normally there was no armor in reserve, but there were instances when one tank regiment was held back, in which case the 'losing' brigade might receive another infantry battalion.

The brigade's two tank regiments would attack together, followed by the infantry battalion and engineers, with the truck-towed artillery close behind and prepared to take up firing positions as soon as opposition was encountered. The concept was to assault the enemy with waves of tanks, and in order to achieve this tank regiments were echeloned. The following scenario is based on a five-company regiment, the 5th Company being equipped with gun (fire support) tanks – which few units actually possessed:

In the regiment's first echelon, two tank companies were deployed forward. Two platoons were forward with the third to the rear — "T" formation — and the command tank centered just to the rear of the two forward platoons. The gun tank company was split up, with a platoon on each outer flank of the forward companies, and a platoon plus the gun



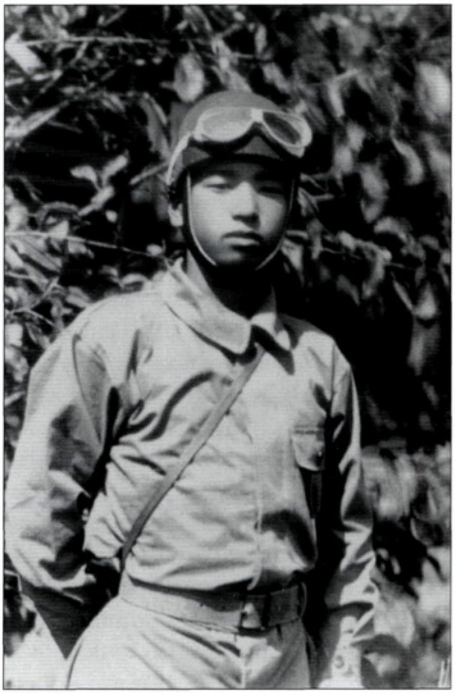
Type 97 Chi-Ha medium tanks practice maneuvering across irregular terrain at the Narashino training grounds in Chiba; note that even in training, crews practiced camouflage. The interval between tanks was supposed to be about 30–40 paces, but they tended to spread out more widely when in combat.

tank company HQ between the two forward medium tank companies. This allowed gaps between units to be covered, and the gun tanks were in position to be sent forward to knock out AT guns and fortified positions. The regimental HQ tanks followed to the rear of and between the two forward companies, and were accompanied by the infantry company and engineer company HQs. The infantry company's platoons followed along behind the tank companies, and an engineer platoon followed each tank company; the third engineer platoon remained with its company HQ to be sent to overcome obstacles where needed. On open ground the regimental front was 1,000–1,200 yards; the two forward company fronts were about 400 yards each, with a depth of some 250 yards.

A couple of hundred yards behind the first echelon was the second. This consisted of the third and fourth companies in "T" formation, but somewhat more laterally dispersed than the first echelon companies. If one of the regiment's companies was equipped with light tanks, it would be in the second echelon, and prepared to conduct reconnaissance or screen an exposed flank. Behind these companies followed the mobile infantry battalion (minus the company detailed to the first echelon). The artillery battalion followed last.

It was possible for the brigade's second regiment to follow the first, but normally both regiments would attack abreast – the choice naturally depended on the terrain, suitable avenues of approach and expected enemy resistance. The division's two brigades might attack abreast, but normally they would be separated by some distance to take advantage of terrain or to achieve different objectives. For a breakthrough directed against extremely strong defenses, or a defilade, the brigades might also attack in echelon, i.e. with one brigade following the other. Like other Japanese divisions, tank divisions might advance on two or three parallel routes, one of these being more heavily weighted for the main attack. Elements would be prepared to conduct flanking and envelopment attacks against enemy forces as the situation and terrain permitted. (See Plates F and G.)

The tank soldier's olive drab summer coverall had concealed buttons to prevent snagging on projections. This crewman wears his Type 94 pistol holster in the normal position behind the right hip. The belt appears to be a tan-colored wartime rubberized canvas version rather than brown leather.



The 1944 division

In early 1944 the tank division lost one brigade HQ, one tank regiment and the reconnaissance and AA units, and this drastically changed divisional tactics. The three remaining regiments now formed a single brigade, and divisions now often operated in two or three temporary detachments organized for specific operations. Such a detachment, usually named after its commanding officer, might consist of one tank regiment, one infantry and one artillery battalion, and an engineer company. Detachments were not equally balanced in their makeup, however, and might vary greatly in composition depending on the situation and terrain. The detachment might be led by the tank brigade commander, the infantry regiment commander, or a tank regiment or infantry battalion commander.

THE TANK TROOPS

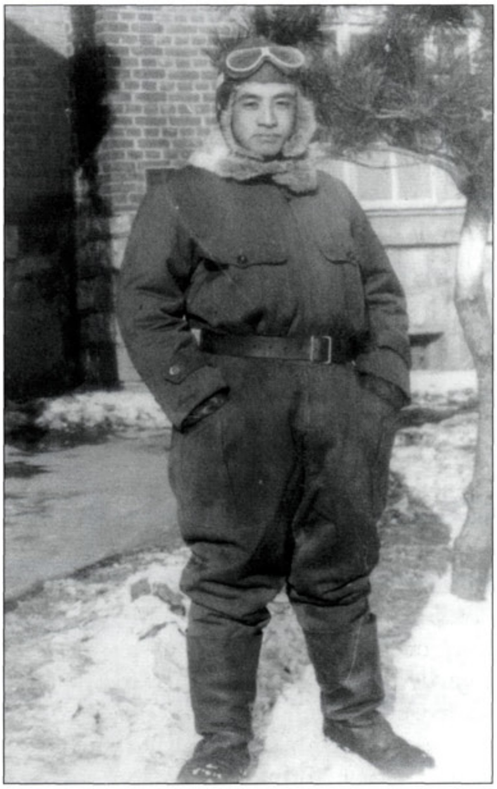
Tank troops (*Senshahei*) were selected from among enlisted recruits in each district. Men holding a driver's license were selected first – in 1930s Japan this represented an unusual special skill. Next, individuals with middle and high school education were selected, since these were considered to be more mechanically inclined or better capable of learning technical skills.

Recruits were assigned to tank regiments to undertake four months' training. They learned driving, shooting, communications and maintenance skills, in addition to the regular infantry training common to all recruits. It was impossible to master all the skills in such a short training period, but they learned the basics of each of the four roles – driver, gunner, radio operator and mechanic; then, depending on their aptitude, they were assigned to one specific role and posted to a sub-unit, to receive more advanced on-the-job training.

The training of tankers began with lectures on the mechanics and operation of tank and motorcar engines. Since the average Japanese had no experience with motor vehicles, lectures had to begin with the most basic information – "This is an engine; this is a clutch." Recruits were trained to drive both motorcars and tanks to a basic level, which usually took about one month. They also received training in firing pistols, machine guns and tank guns. Main gun live firing was very limited, though gunners would receive additional training during their service. Maintenance training was thorough; the engines and running gear were fragile and temperamental, requiring much care to maintain. The recruits also learned basic radio operation and flag signals.

Tankers were outfitted with a one-piece olive drab coverall with a single pocket on the left chest; an insulated winter version had a fur collar and additional chest and thigh pockets. The Type 92 tanker's helmet was covered with olive drab canvas, and a fur-lined, leather-covered winter version was also issued, as were goggles with two

The Chinese winters required heavier protective clothing. This tanker wears the fur-lined winter tank suit, with brown leather fur-lined helmet, gloves and boots; the winter coverall had more pockets than the summer version.



These 15- to 17-year-old cadets at the Fujinomiya Youth Tank School will graduate after two years of intense training on all aspects of tanks, their employment and maintenance, to become NCOs and tank commanders. Note (left) the Type 92 tanker's helmet, made of a thick waterproofed hemp shell lined with leather and covered with olive drab canvas.

eyepieces. In all but the coldest conditions standard-issue brown leather laced service boots were worn with puttees. Often, especially in the tropics, tank crews simply wore the standard all-arms field uniform. Each crewman was armed with an 8mm Type 94 pistol with a brown leather holster, attached to a leather waist belt over the right rear hip and supported by a shoulder strap. A tank crew might carry one or two Arisaka 6.5mm Meiji Type 38 (1905) carbines in the vehicle, as well as hand grenades. If forced to abandon their tank they could dismount the machine guns for ground use.

Tank schools

The IJA established several tank schools to accommodate the expanding armored force.

The **Chiba Tank School** was founded in August 1936 at the 2nd Tank Regt base at Narashino in Chiba Prefecture, on the Boso Peninsula; after four months it moved to Kurosuna, also in Chiba Prefecture. The school trained officers and NCOs for tank units; tank crews attended a six-month course, and the mechanics' instruction took eight months. In 1941 the training of mechanics was separated from the Tank School and an Armor Maintenance School was established in Tokyo.

Because the available training area at the Chiba school was too small for large maneuvers, and many tank units were deployed in Manchuria, in December 1940 the **Kungchuling Tank School** was opened in that IJA base in the Japanese puppet state of Manchukuo; in 1942 it moved to **Siping**, and was renamed accordingly. This school trained tankers from units stationed in Manchuria and China, while the Chiba Tank School intake came from units in the Home Islands, SE Asia and the Pacific. The Kungchuling/Siping school also studied the tactics of armored warfare against the Soviets.

It was difficult for enlisted soldiers to master the skills required by tank crews during short-term training in the regular military education system, and in 1939 a youth tank

A major at the Siping Tank School in Manchuria poses beside a Type 97 medium tank. He wears the Type 98 (1938) service uniform with Type 98 collar rank insignia. While cumbersome inside cramped tanks, swords – an important symbol of status – were still carried by officers and NCOs. (Katsumi Nakamura) training scheme was introduced. Selected boys of 15–17 years could apply for a two-year course, and upon graduation they were assigned as NCOs to tank units. Initially this training was given within the Chiba Tank School; from December 1941 a separate **Youth Tank School** was founded at Chiba, and in 1942 this moved to Fujinomiya at the foot of Mount Fuji. About 3,000 men had graduated from Youth Tank School by the end of the war.

From the 1920s the **Army Cavalry School** at Chiba had conducted tank training as well as instruction in cavalry skills. From 1937 the horse-cavalry training ceased, and thereafter the Cavalry School became another IJA tank school, specializing in reconnaissance, light tanks and tankettes.

COMMUNICATIONS & MAINTENANCE

Tank communications

Prior to 1943, only the tanks of regimental, company and platoon commanders were equipped with radios. Platoon commanders used flag, arm and light signals to communicate orders and directions to their platoon tanks. The company commander's tank had two radios, one on the regimental command net, and the other on the company command net for communication with platoon leaders. From 1943 the platoon tanks were also intended to have two-way radios, and the platoon commander's tank would receive a second radio on the platoon net, but in practice these extra radios were seldom available. Only later-production tanks equipped with radios had an intercom system for crew communications. In some types of tanks there was a button-activated lamp system allowing the commander to transmit simple directions to the driver; there was no speaking-tube system. In tankettes and light tanks commanders were so close to the driver that they could direct him with toe-taps to his shoulders.

A key means of communications, especially when platoon tanks lacked radios or when radio silence was necessary, was flag signals. An elaborate system was devised, using different colored and patterned

Tank radios

Type 94 radio set Mk 4 Otsu Year, 1934; for Type 92 cavalry tank; weight, 88lb; antenna, 23ft long, reversed-L shape (2m vertical, with horizontal 5–7ft antenna); range, 0.6 miles; produced in small numbers.

Type 94 radio set Mk 4 Hei Year, 1934; for Type 89 medium tank; weight, 198lb; antenna, 29ft 6in, reversed-L shape; range, 0.6 miles; produced in large numbers.

Type 96 radio set Mk 2 Bo Year, 1941; for Type 95 armored railroad car; weight, 1,235lb; antenna, 29ft 6in, reversed-L shape; range, 25 miles; only 20 examples produced.

Type 96 radio set Mk 4 Bo Year, 1941; for Type 97 medium & Type 95 light tank command nets; weight, 110lb; antenna, 29ft 6in, reversed-L shape; range, 0.6 miles; only 80 examples produced.

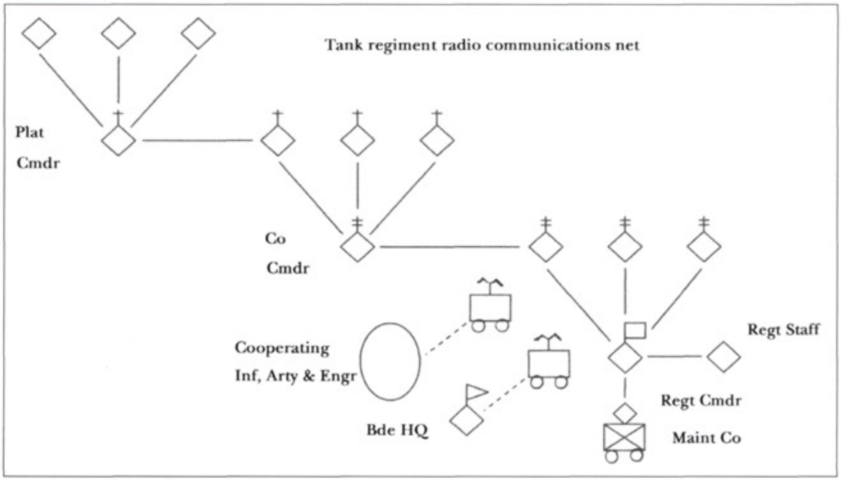
Type 3 radio set Ko Year, 1943; for armored force HQ *(Shi-Ki)*; weight, 1,235lb; antenna, 6ft 6in, vertical; range, 9½ miles (telephone), 31 miles (telegraphic); produced in small numbers.

Type 3 radio set Otsu Year, 1943; for armored force command tank *(Shi-Ki)*; weight, 529lb; antenna, 6ft 6in, vertical; range, 2½ miles (tele-phone), 6¼ miles (telegraphic); produced in small numbers.

Radio set Hei (no type designation since not officially adopted) Year, 1943; for inter-tank communications; weight, 286lb; antenna, 6ft 6in, vertical; range, 550 yards (telephone); approx 200 produced.

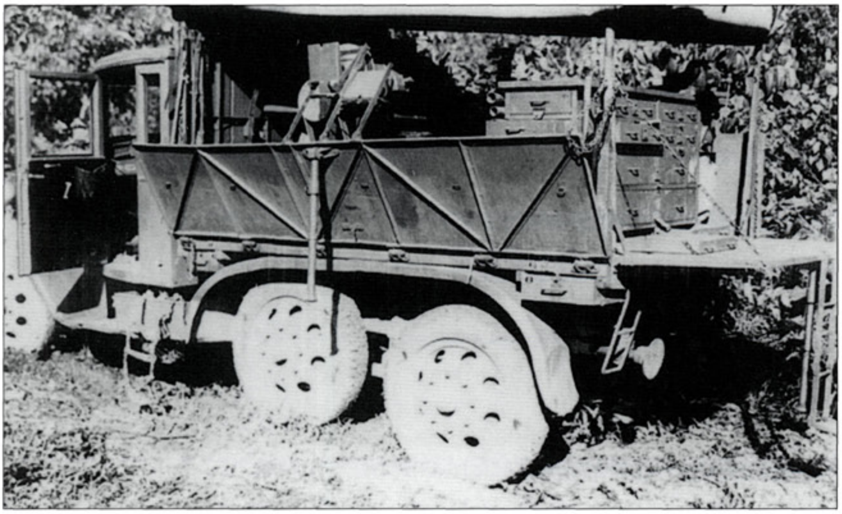
Note: See chart of tank regiment communications net on page 28.

Two radio operators in a regimental command car communicate instructions to tank company commanders using a Type 96 Mk 4E radio. This same set was used in Type 95 light and Type 97 medium tanks.


Tank regiment radio communications net
Plat Cmdr
Co Cmdr
Cooperating Inf, Arty & Engr
Bde HQ
Regt Staff
Regt Cmdr
Maint Co

flags to relay orders and actions, and also – uniquely among the combatant armies – identifying the echelon of the commander making the signal. Apart from their vulnerability to errors in the heat of action, flag signals had other disadvantages: either they were too conspicuous, so that one sub-unit might see another element's signals and mistakenly obey them; or they were not conspicuous enough, being masked by dust, smoke, fog or rain. As an alternative, less conspicuous arm signals might be used, but these were more difficult to see in low visibility. Flags obviously cannot be used at night, so a system of white, red and blue flashlight signals was available. Flares from 3.5cm Type 97 pistols were also used to relay orders and signal the completion of actions. The problem with all these visual communications was that vehicle commanders had to watch their sub-unit commander's tank constantly – at the expense of watching the terrain, detecting enemy threats and targets, watching other tanks in the sub-unit to maintain formation, and directing the crew. When all these means of signalling failed or were not understood, tank commanders would simply copy whatever their platoon commander's tank did.

A rare example of a crane-equipped Type 95 Ri-Ki tank recovery vehicle. (Osamu Shimoharaguchi)



A Type 94 repair truck, as found in regimental maintenance companies. Equipped with a lathe, drill press, cutter, power generator and other power and hand tools, the crew were capable of repairing weapons and vehicles.

Tank maintenance

This was critical to unit efficiency, and maintenance units were assigned at all echelons. The tank company had a maintenance section as part of the train; initially the regiment had a maintenance element within its train, but by 1940 a full maintenance company was assigned. The tank division had a battalion-size maintenance unit of nearly 800 men. The IJA classified maintenance tasks under five categories:

1. Adjustment – daily routine maintenance
2. Minor repairs – one-day repairs including replacing parts
3. Medium repairs – tasks that could be completed within three days
4. Major repairs – tasks requiring four days or more
5. Periodical repairs – overhaul to refurbish vehicle, requiring a few weeks.

The capabilities of the different echelons were identified as follows:

Tank crews Adjustment, in garrison and in the field

Company maintenance section Minor repairs, in garrison and in the field

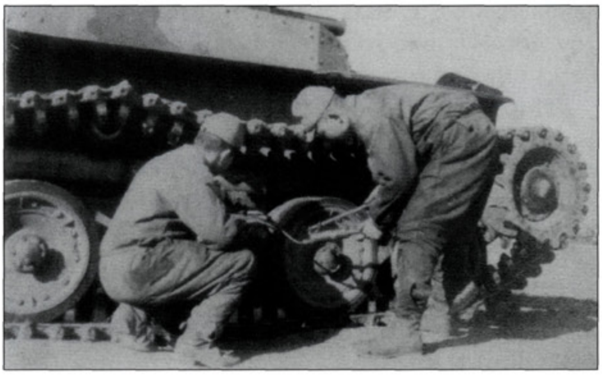
Regimental maintenance company Medium and major repairs in garrison, minor repairs in the field

Divisional maintenance unit Major and periodical repairs in garrison, medium repairs in the field

Field motor vehicle depot Major and periodical repairs in garrison, major repairs in the field.

The system was supposed to operate as follows when armor units were in action. The tank company maintenance section was organized within the company train; it followed the company, to locate disabled tanks and repair them if within its capabilities. If unable to effect repairs, it called on the regimental maintenance company.

The maintenance company had a repair platoon and a recovery platoon. When requested by company maintenance sections, elements of the repair platoon moved to a damaged tank and repaired it. If a crane vehicle



Crewmen of a Type 97 medium tank use a grease gun to lubricate grease points, a necessary task each time the tank was run. Precautionary maintenance was unending; at every halt the crew serviced their vehicle, checking fan belts, fuel lines, linkages and connections, oil and greasing. (Katsumi Nakamura)

was necessary, it called for the recovery platoon, which could also haul badly damaged tanks to the rear.

The divisional maintenance unit operated a repair shop in the field, repairing tanks and other vehicles transferred from regimental maintenance companies and other divisional units.

The field motor vehicle depot was attached to the Army (a corps-equivalent command, in our terms) or Area Army (an army-equivalent command). Its original task was the repair of trucks and cars, but it also received the capability to repair and overhaul tanks and other tracked vehicles. However, because personnel were not experts on tank repair, a special unit was organized shortly before the Pacific War. This *Dai 1 Sokisha Syuri Tai* (1st Tracked Vehicle Repair Unit) consisted of 231 specialists, and backed up the tank facilities in the Southern theater during the Philippine, Malaya and Burma campaigns. It was later stationed in Manchuria, and participated in Operation "Ichi-Go" in China (see below).

Japanese tank maintenance was hampered by shortages of heavy recovery vehicles, other heavy equipment, and spare parts.

2nd Independent Tank Co, 1932
Company HQ (Capt Isao Shigemi)
  1× Renault NC27 light tank
1st Platoon (Capt Kazuo Harada)
  3× Type 89 medium
2nd Platoon (Lt Kengo Imamura)
  2× Type 89 medium
3rd Platoon (Sub-Lt Toshio Sakata)
  5× Renault NC27 light
4th Platoon (Capt Takao Maeda)
  4× Renault NC27 light

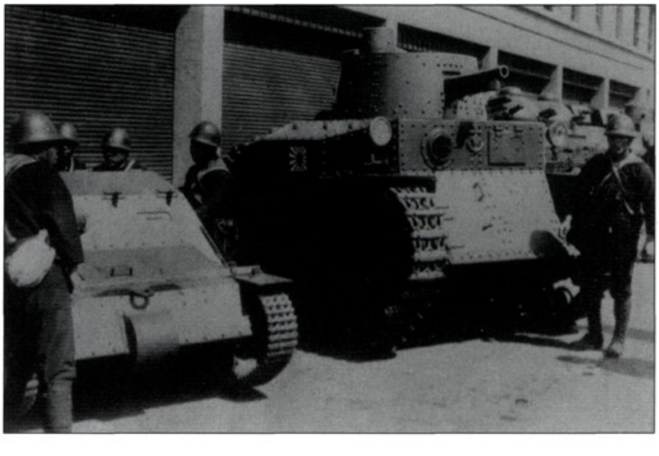
BATTLE HISTORY

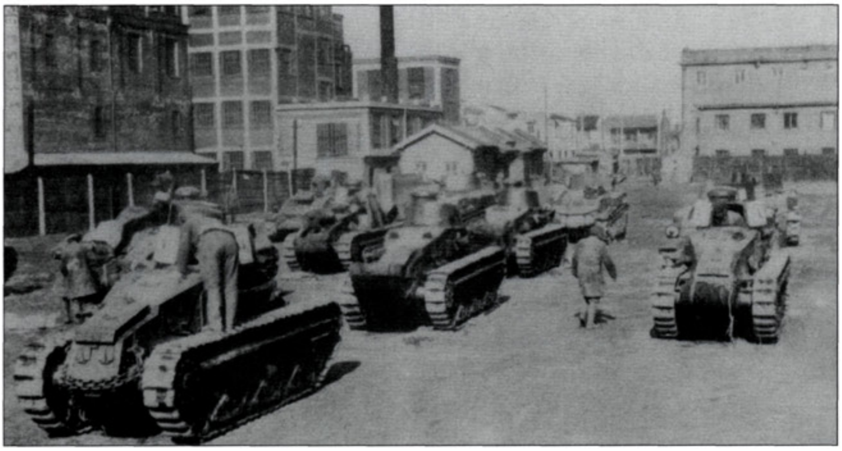
CHINA

Shanghai 1932

When the "Shanghai Incident" began on January 28, 1932, the 2nd Independent Tank Company was organized within the 1st Tank Unit at Kurume, and dispatched to Shanghai. After landing on February 13, the 2nd Ind Tank Co participated in the attack on Kiangwan in the suburbs of the city. Shanghai was defended by numerous well-entrenched Chinese troops and protected by an extensive system of antitank ditches. The bulk of the tank company was attached to 5th Inf Bde in the right wing, and 3rd Platoon to the Special Naval Landing Force in the left wing. On February 20 the main body of the company advanced on a northern route, but were halted about 300 yards short of the town by obstacles and intense fire. The 2nd Platoon advancing on the southern route was halted by a ditch; two tanks found a way to bypass the ditch, but were immobilized by mines. Shortly before noon the attack was shifted to the south of Kiangwan, and the tank company was ordered to move in that direction. On arrival, Capt Shigemi assessed that it was also impossible to advance by that route, and ordered his tanks to withdraw.

The next morning they attacked the south of Kiangwan near the Kiangwan railroad station. The Chinese defending the station fiercely resisted the advancing Japanese infantry; the tanks were again halted by a creek and a ditch, but Capt Harada's tank managed to pass the others and he charged the station. He drove his tank onto the station's loading platform,


Special Naval Landing Force armor in China: (left to right) British-made Carden Loyd Mk IV tankette, Type 89 medium tank, two British-made Vickers Crossley armored cars, and, barely visible, two Type 92 armored cars.



February 1932: some of the ten French-built Renault NC27 light tanks of the HQ, 3rd and 4th Platoons of Capt Isao Shigemi's 2nd Independent Tank Co after disembarking in Shanghai. This was an updated version of the World War I Renault FT 17.

firing its main gun directly into Chinese positions, but again enemy resistance was resolute and the one-tank attack failed. In the evening the attack was cancelled and the Japanese withdrew.

The Japanese tank crews had similar experiences during the subsequent battle of Shanghai, and it was realized that urban environments were a poor battleground for tanks. The lightly-armed and -armored vehicles were vulnerable to close-in infantry attacks and close-range heavy machine gun fire, and were easily halted by streams, AT ditches and rubble. By the final phase of the battle Capt Shigemi's company had only three operational tanks left.

China 1937–38

The Second Sino-Japanese War commenced on July 7, 1937, in what was also known as the "China Incident," as Japanese forces from occupied Manchuria invaded Chinese territory. Fighting the Chinese National Revolutionary Army, Japanese tanks again experienced difficulties with the creeks and ditches in Shanghai. By now the Chinese had also acquired effective AT guns – German 3.7cm Pak 35/36 – which they had lacked in 1932. The following action is paraphrased from the combat report of 5th Tank Battalion:

> On September 10, 1937 3rd Platoon, 1st Tank Company advanced to within 150 yards of Chinese positions along a creek to the east of Yanghang, to cover the advance of infantry. A scout succeeded in reconnoitering a destroyed bridge in front of the enemy positions under fierce fire. At 4pm a Chinese AT gun suddenly fired on our tanks, and all tanks of the platoon shifted their fire to this gun. At that time the turret of the platoon leader's tank could not be turned due to gunfire damage; Driver Fujino immediately turned the tank in the direction of the AT gun. As the crew prepared to engage this, an armor-piercing shell penetrated the frontal armor, killing the driver and seriously wounding the gunner. Tank commander Okamura realized the tank was on fire, but he decided to destroy the enemy gun before abandoning the tank. As he moved to the gunner's position another shell hit the turret, and the shock of its impact freed the jammed traverse. Realizing his good fortune, he fired three rounds and silenced the enemy gun.

Attempting to extinguish the fire, he found that the fire extinguisher was damaged. Okamura and the machine gunner slapped out the fire with their gloved hands. He treated the wounded gunner and made temporary repairs on the damaged tank. When ready, the machine gunner drove the tank back to a friendly position.

Iwanaka Detachment, May 1938
1st Tank Bn
7th Independent Tankette Co
battalion, 104th Inf Regt
platoon, 19th Mountain Gun Regt
detachment, 1st Independent Engineer Co
Independent Motorcar Co
element, 13th Div Signal Unit

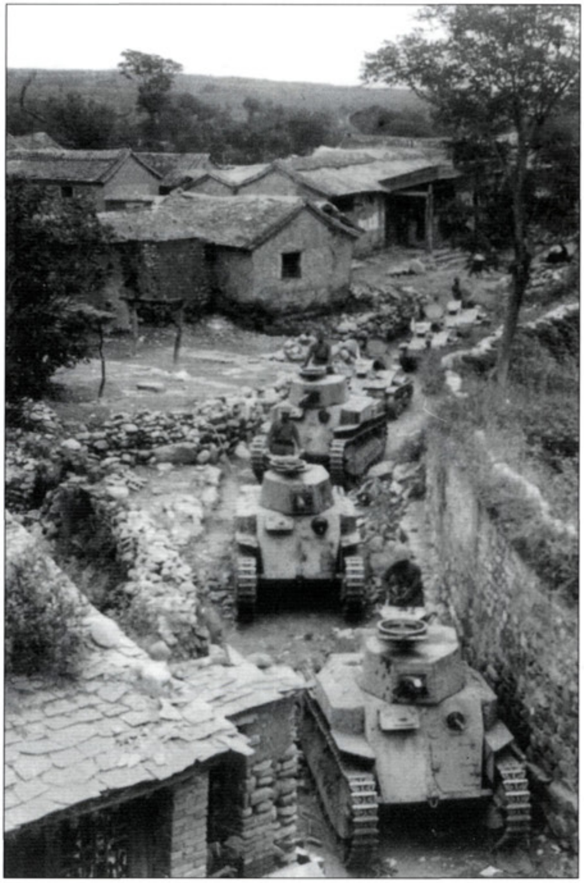
The battle of Hsuchou

To prevent Chinese forces retreating from Hsuchou in May 1938, the Japanese sent two detachments to cut the railroad between Hsuchou and Chengchou. The Iwanaka Detachment, commanded by Col Yoshiharu Iwanaka, CO of 1st Tank Bn, advanced from the north, and the Imada Detachment, led by Col Shunichi Imada of 2nd Tank Bn, from the south, with the mission of destroying a railroad bridge west of Hsuchou. Each detachment consisted of the tank battalion and supporting units of infantry, artillery and engineers. To keep pace with the tanks in what was intended as a rapid, deep, enveloping attack, the detachments were motorized with some hundreds of motorcars.

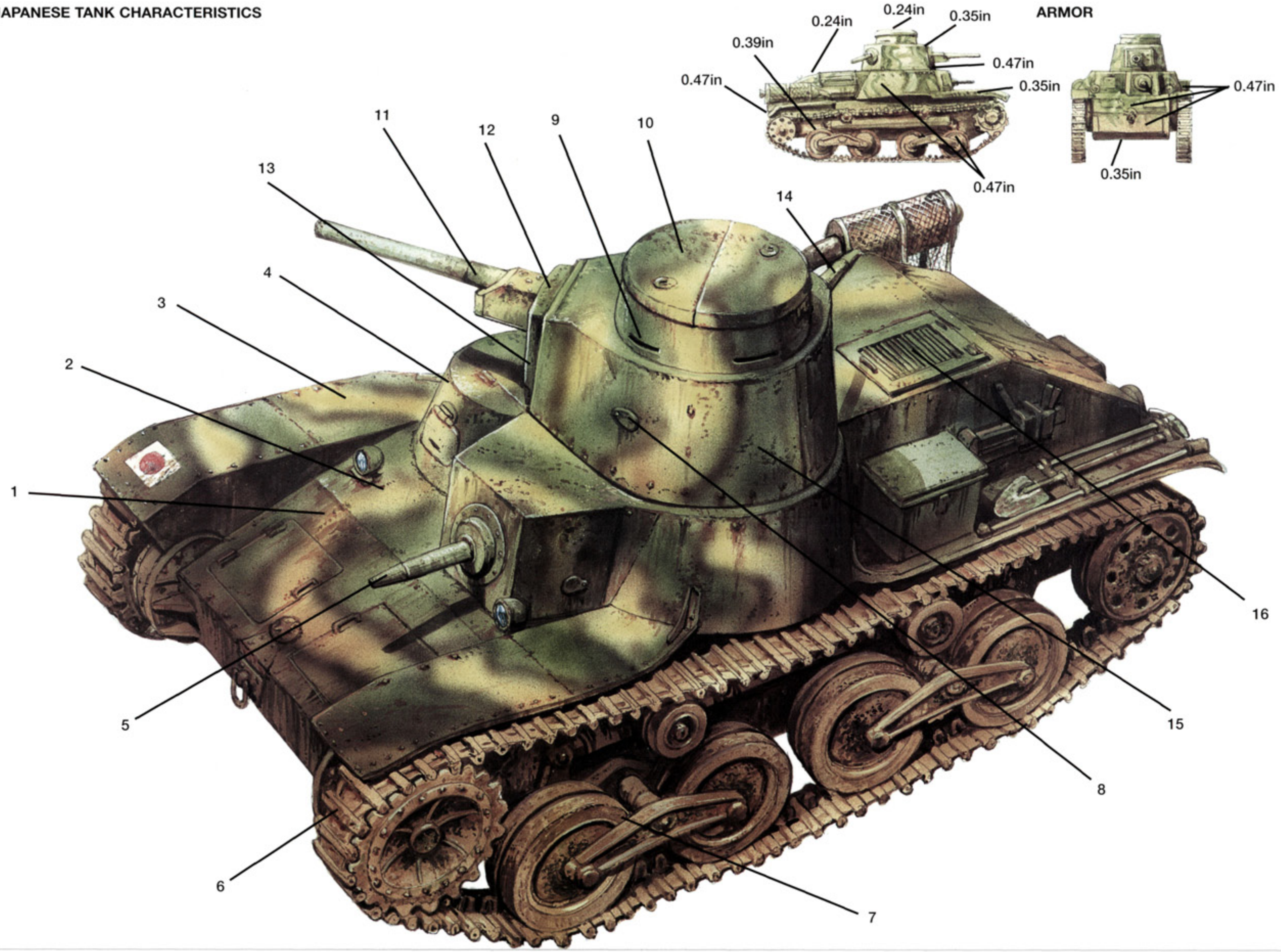
On May 11 the Iwanaka Detachment departed from Mengcheng and occupied Yongcheng. They advanced north and, after reaching a point some 20–25 miles south of the objective railroad line, received a message dropped by a scout plane. This reported that large Chinese forces were deployed along the railroad, and that Chinese troops were at Handaokouji to their north. Colonel Iwanaka realized that if they advanced straight to the bridge they would become enmeshed in a fight with large Chinese forces and would suffer severe losses. To distract the attention of the Chinese from his bridge objective, Iwanaka decided to attack the enemy force in Handaokouji.

On May 13 the detachment attacked Handaokouji against strong Chinese resistance, and that evening Iwanaka ordered a withdrawal. At a result of this attack, some Chinese forces defending the railroad moved toward Handaokouji and the bridge guard was weakened. The next morning Iwanaka and his troops advanced to the bridge having moved across country under cover of darkness. They quickly eliminated the weak resistance and set explosives; at 3.25pm the bridge was blown, and the mission had been accomplished. The detachment returned to friendly lines without incident, after suffering only light casualties. This swift and intelligent success was widely publicized in Japan, as a good example of the benefit of mechanized units. However, the IJA staff appeared not to have grasped the value of a mobile combined-arms force, and the Iwanaka Detachment was disbanded after the battle of Hsuchou.

(continued on page 41)

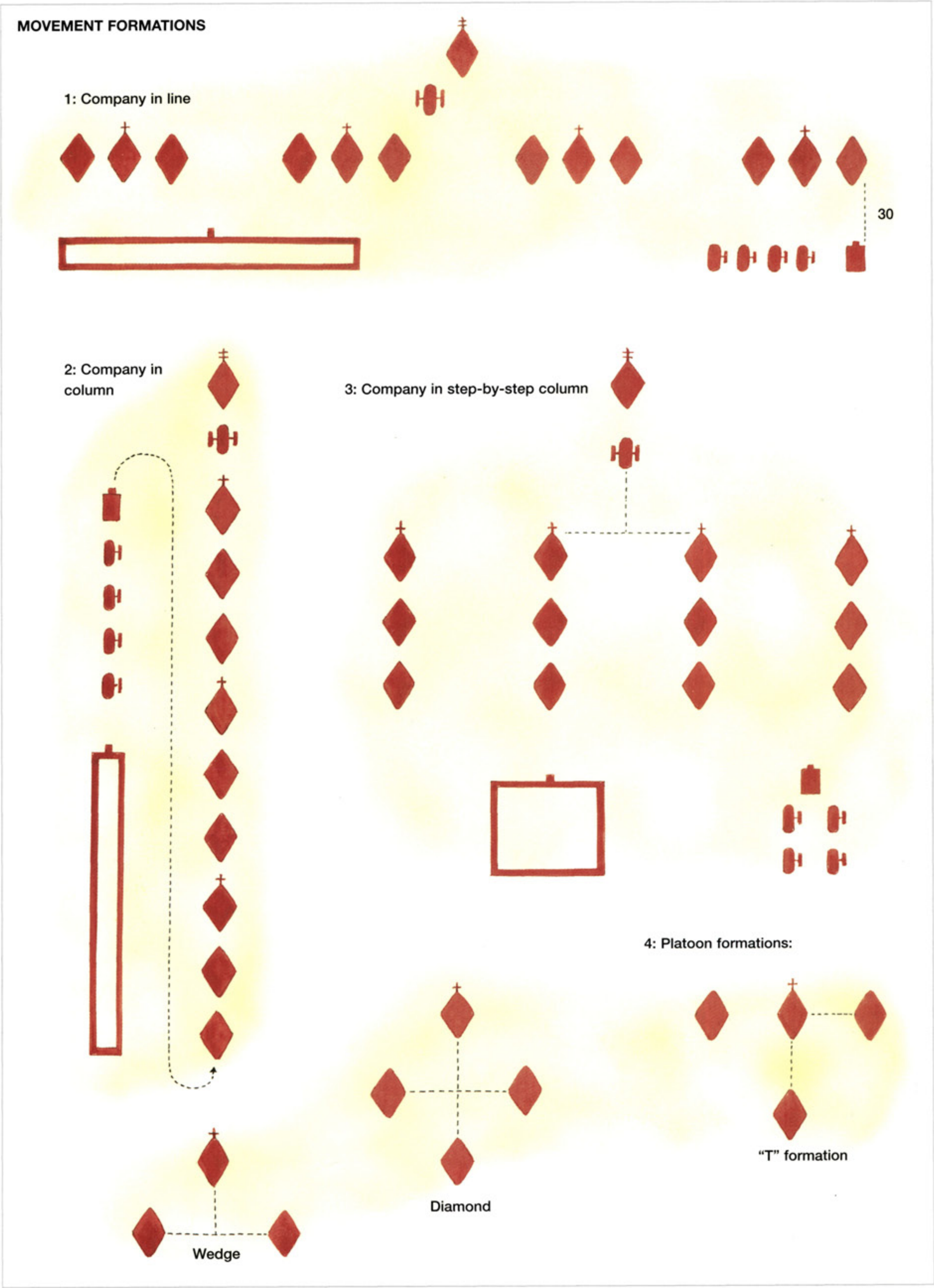

August 1937: Type 89 medium tanks and Type 94 tankettes of the 11th Independent Mixed Bde thread their way though a northern Chinese village near Nankou.

JAPANESE TANK CHARACTERISTICS


ARMOR
0.24in
0.24in
0.35in
0.39in
0.47in
0.47in
0.35in
0.47in
0.47in
0.35in
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

A

B



MOVEMENT FORMATIONS

1: Company in line

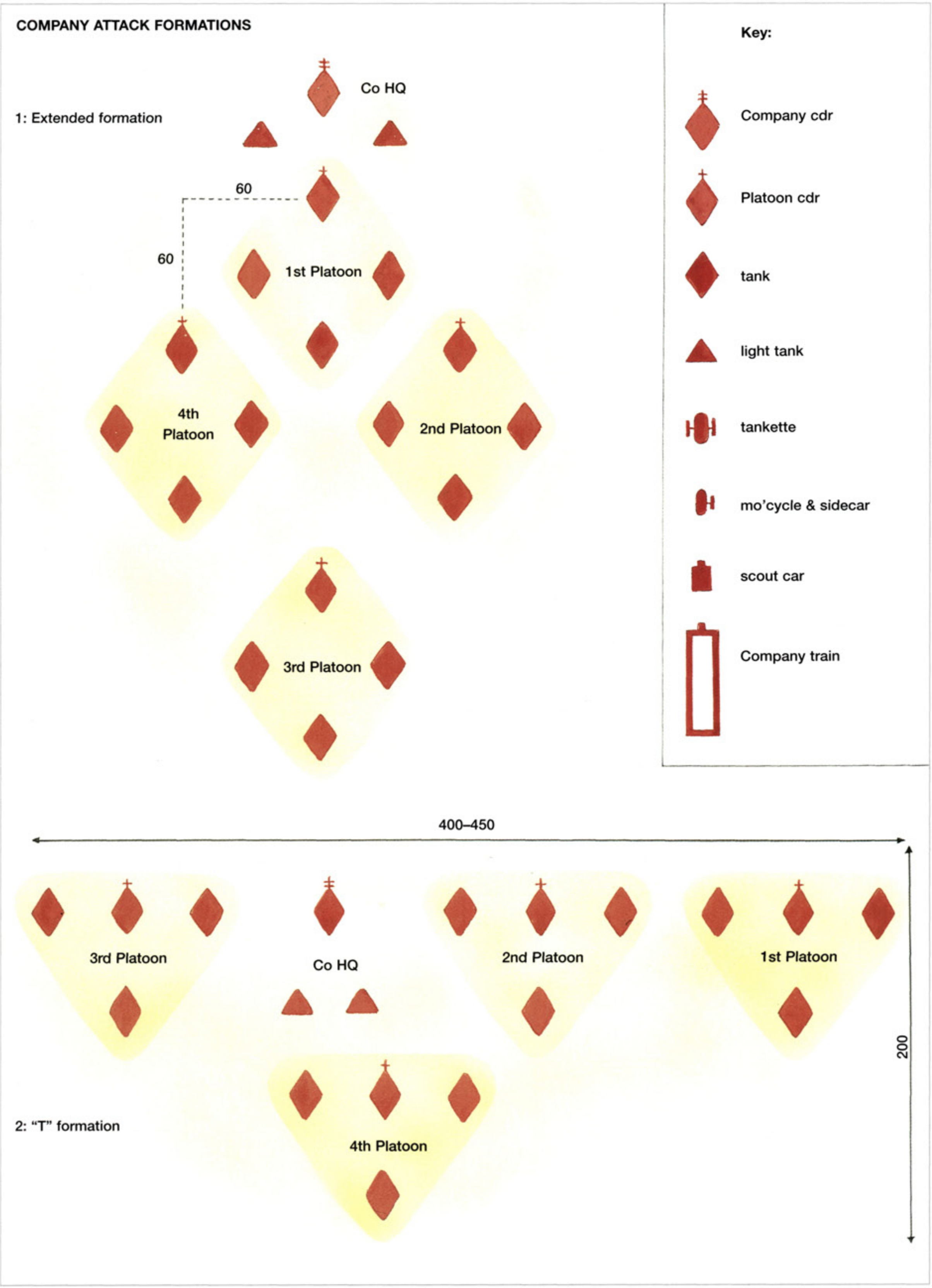
2: Company in column

3: Company in step-by-step column

4: Platoon formations:

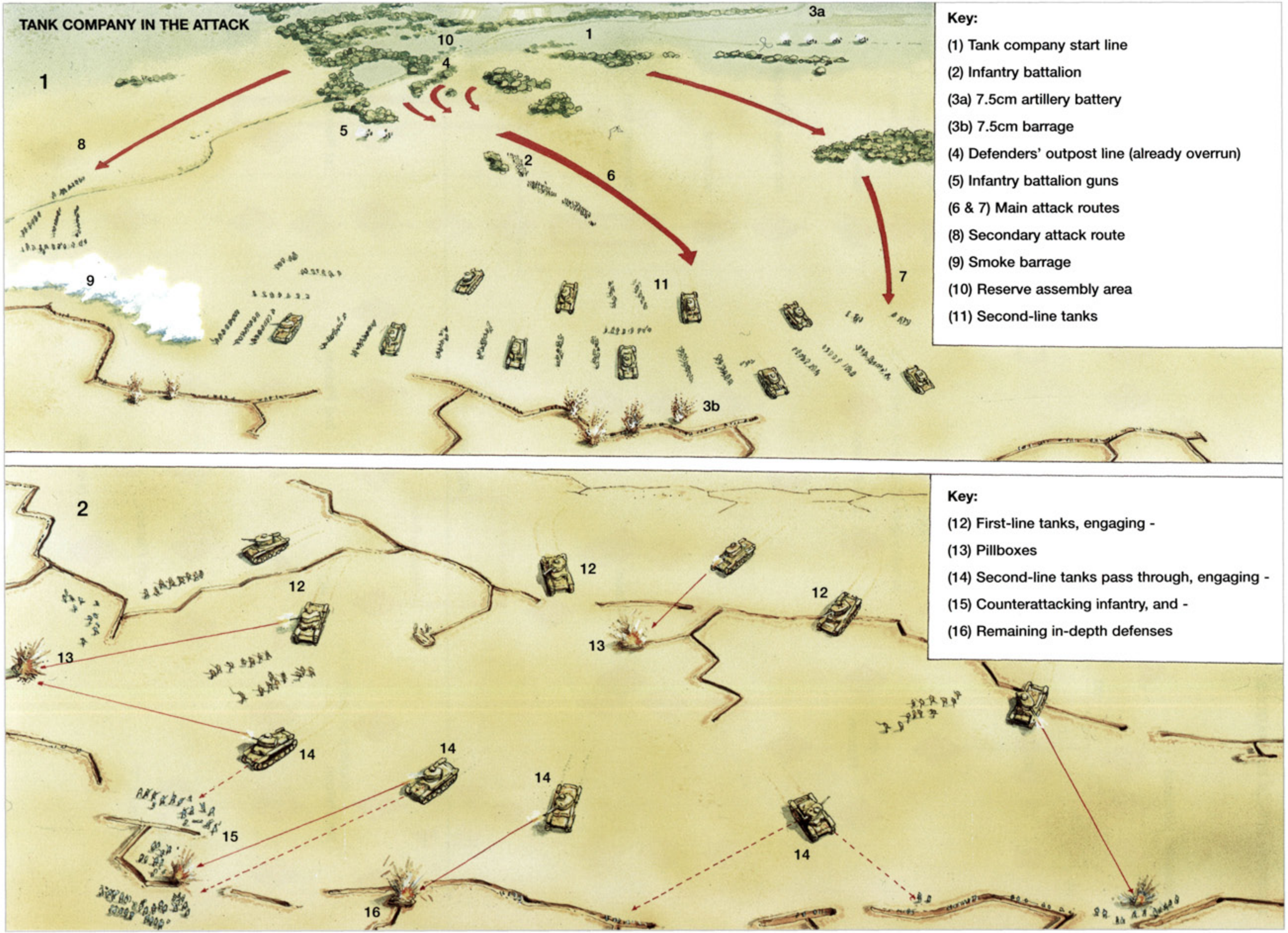
30
Wedge
Diamond
“T” formation

COMPANY ATTACK FORMATIONS


1: Extended formation
Co HQ
60
60
1st Platoon
4th Platoon
2nd Platoon
3rd Platoon
400–450
200
3rd Platoon
Co HQ
2nd Platoon
1st Platoon
4th Platoon
2: "T" formation
Key:
Company cdr
Platoon cdr
tank
light tank
tankette
mo'cycle & sidecar
scout car
Company train

C

D



TANK COMPANY IN THE ATTACK

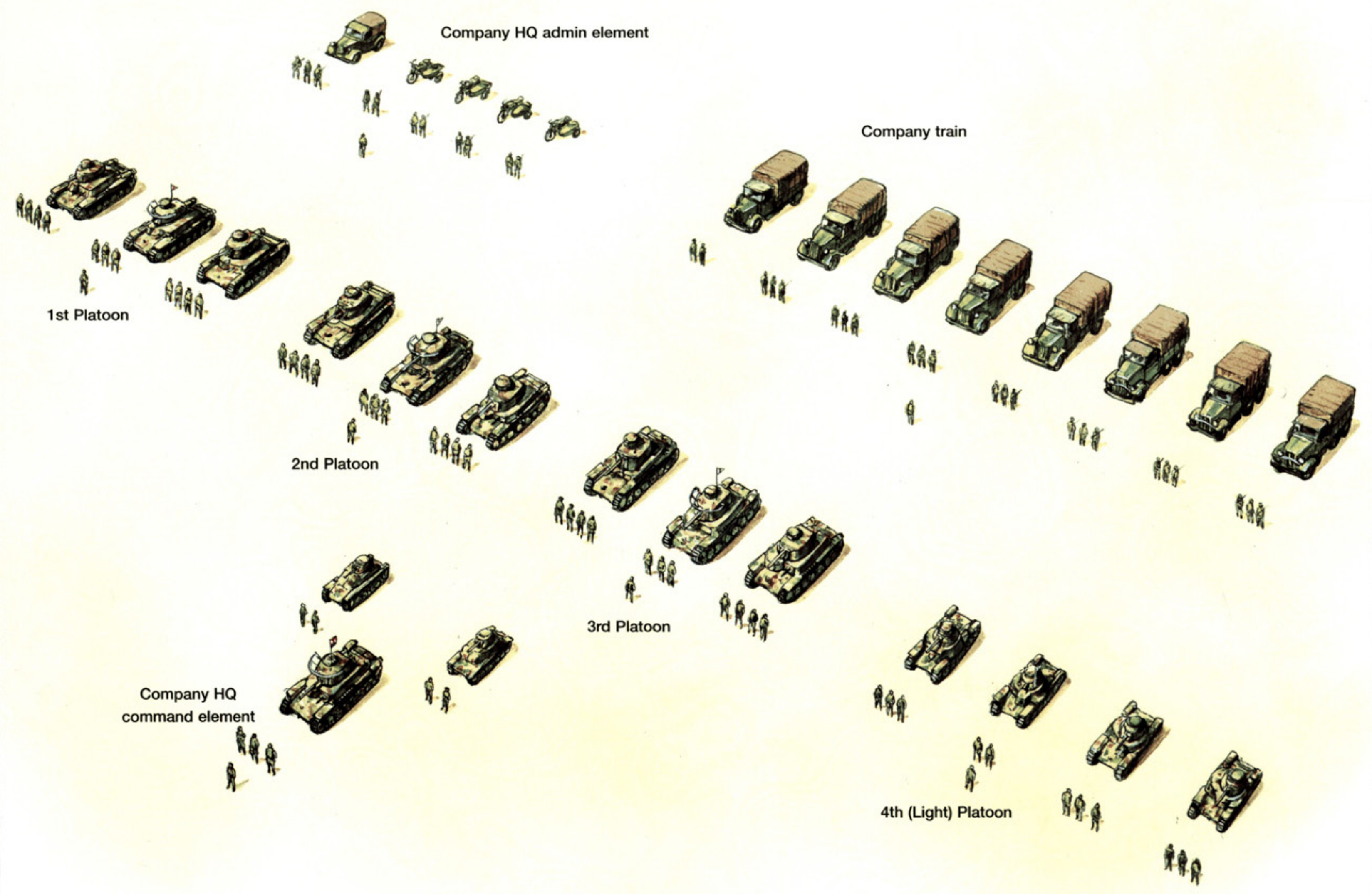
Key:

(1) Tank company start line
(2) Infantry battalion
(3a) 7.5cm artillery battery
(3b) 7.5cm barrage
(4) Defenders' outpost line (already overrun)
(5) Infantry battalion guns
(6 & 7) Main attack routes
(8) Secondary attack route
(9) Smoke barrage
(10) Reserve assembly area
(11) Second-line tanks

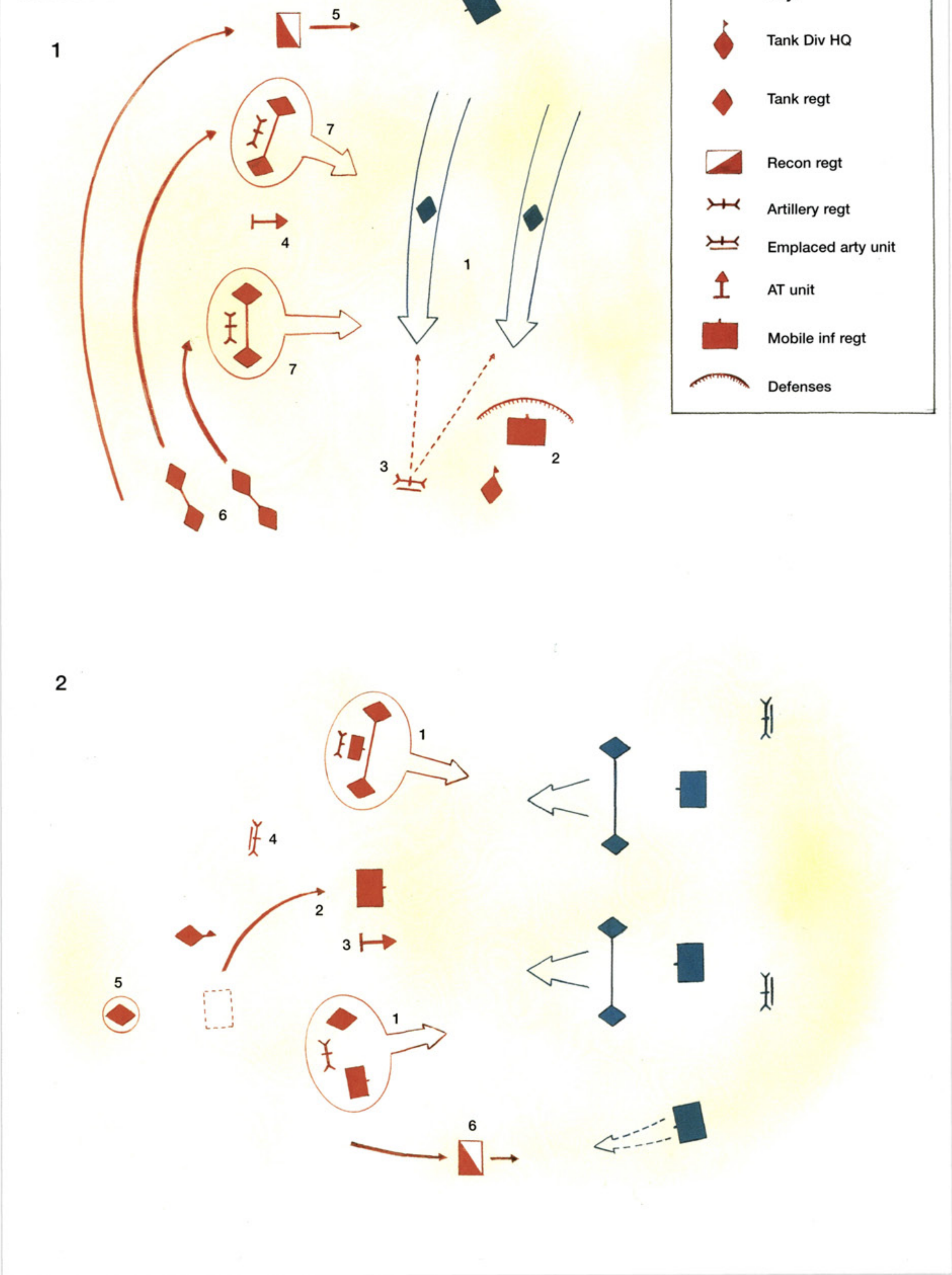
Key:

(12) First-line tanks, engaging -
(13) Pillboxes
(14) Second-line tanks pass through, engaging -
(15) Counterattacking infantry, and -
(16) Remaining in-depth defenses

MEDIUM TANK COMPANY STRUCTURE

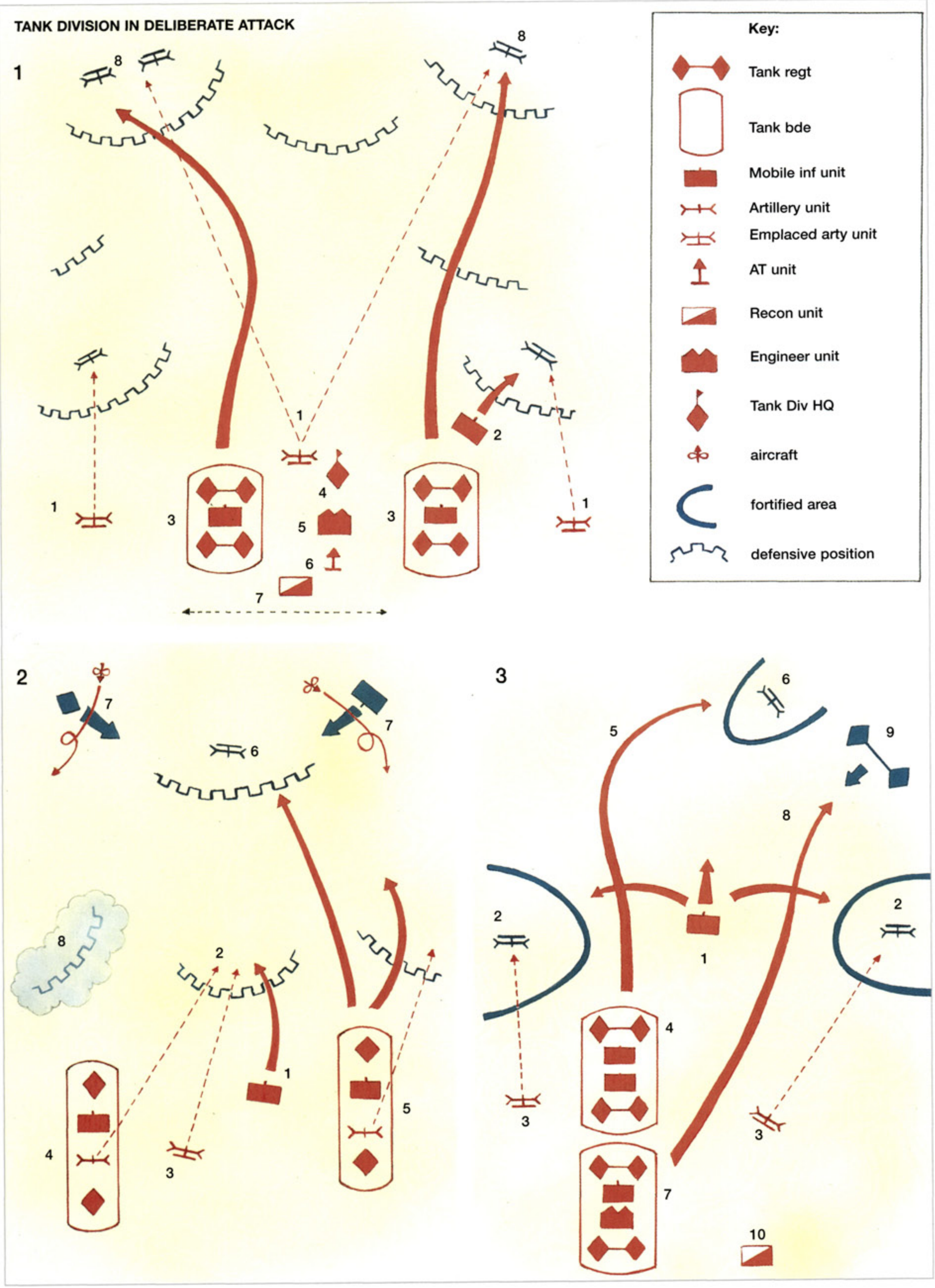

Company HQ admin element
Company train
1st Platoon
2nd Platoon
3rd Platoon
Company HQ command element
4th (Light) Platoon

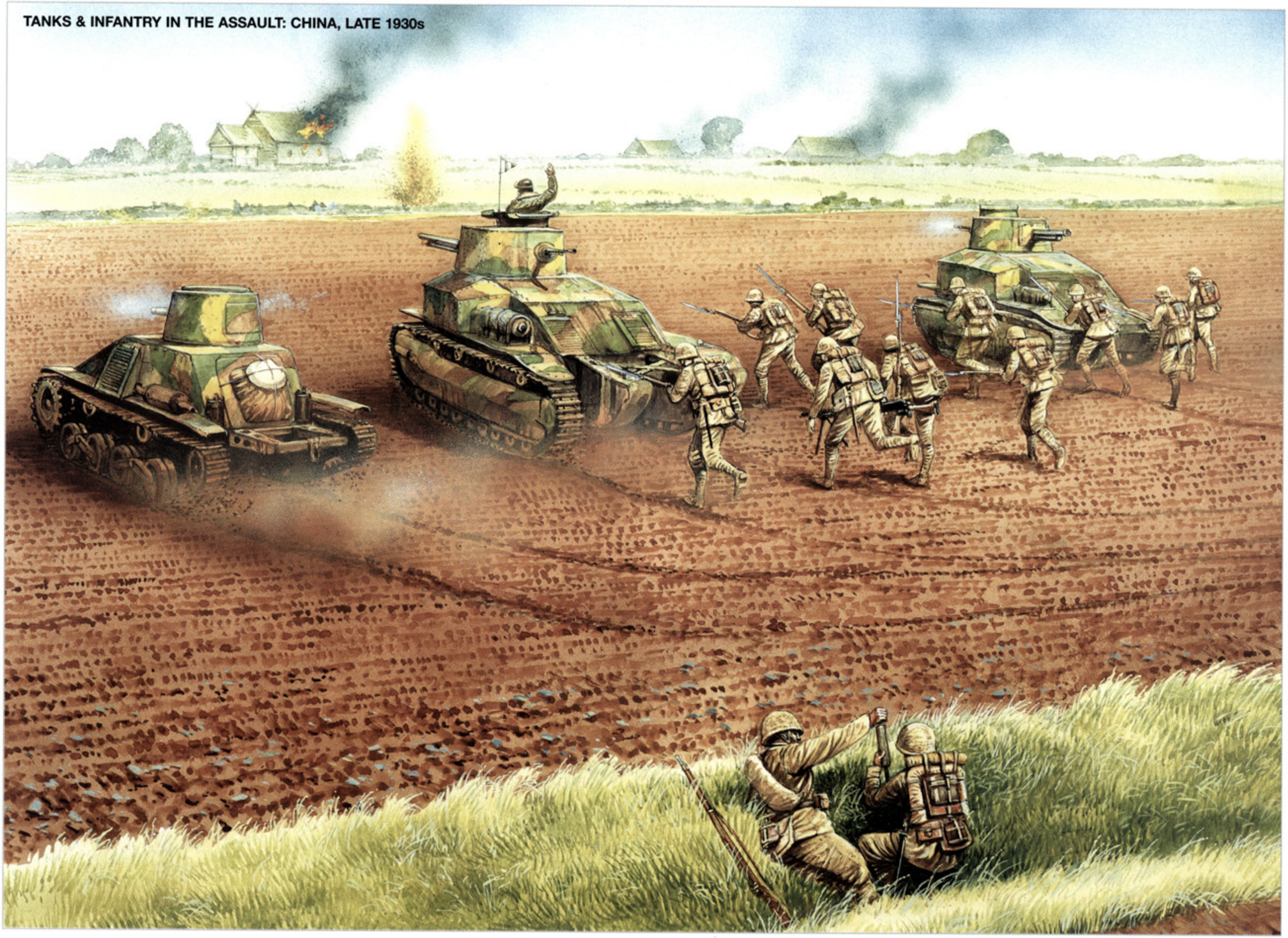
TANK DIVISION MEETING ENGAGEMENTS


Key:
Tank Div HQ
Tank regt
Recon regt
Artillery regt
Emplaced arty unit
AT unit
Mobile inf regt
Defenses
1
5
7
4
1
7
3
2
6
2
1
4
2
3
5
1
6

F

TANK DIVISION IN DELIBERATE ATTACK


1
2
3
4
5
6
7
8
9
10
Key:
Tank regt
Tank bde
Mobile inf unit
Artillery unit
Emplaced arty unit
AT unit
Recon unit
Engineer unit
Tank Div HQ
aircraft
fortified area
defensive position
G



TANKS & INFANTRY IN THE ASSAULT: CHINA, LATE 1930s

CHINA 1944

The goal of the "Ichi-Go" offensive, between April and December 1944, was to conduct a series of attacks from the main Japanese-occupied area in northeast China, in order to open land routes south to Hong Kong and Indochina, and to capture airfields in southeast China used by US air forces.

On April 30, 1944, the 37th Div attacked Xuchang, supported by a company from 13th Tank Regt; the rest of 3rd Tank Div was held in reserve, not being suited for urban fighting. The tanks broke through the gates of Xuchang and Japanese infantry flooded in; in bitter street fighting some 3,000 Chinese troops were killed and the city was occupied. General Yamaji then swung his tank division westwards, dividing it into three groups (see panel, page 42).

The first phase of the campaign, Operation "Kogo," took place from April to May. Its goal was to eliminate a large Chinese salient in the central portion of the broad Japanese front, which occupied much of coastal eastern and northern China. Yamaji ordered his Right Dash Group and Left Dash Group to advance on Linru; the Dash-Forward Group was ordered to advance rapidly on Baisha, ignoring any small Chinese forces encountered en route. The Right Dash Group skirted Yuxian, which the Chinese defended strongly, and advanced on Jiaxian. The Left Dash Group and Dash-Forward Group advanced to Jiaxian via Xiangcheng, and on the afternoon of May 2 they attacked Jiaxian. That night the Reconnaissance Unit advanced to the west of the town by stealth; coordinated with the night attack by the main body of the division, they attacked the Chinese from behind and drove them from Jiaxian in a rout. The next day the division advanced to Linru, overrunning and routing enemy forces on the way, and attacked Linru in the evening. The tanks of 17th Tank Regt broke into the city, and after three hours' fighting the Chinese fled. The Reconnaissance Unit pursued them and pushed on to Baisha; found to be abandoned by the Chinese, this was occupied by the Reconnaissance Unit on May 4.

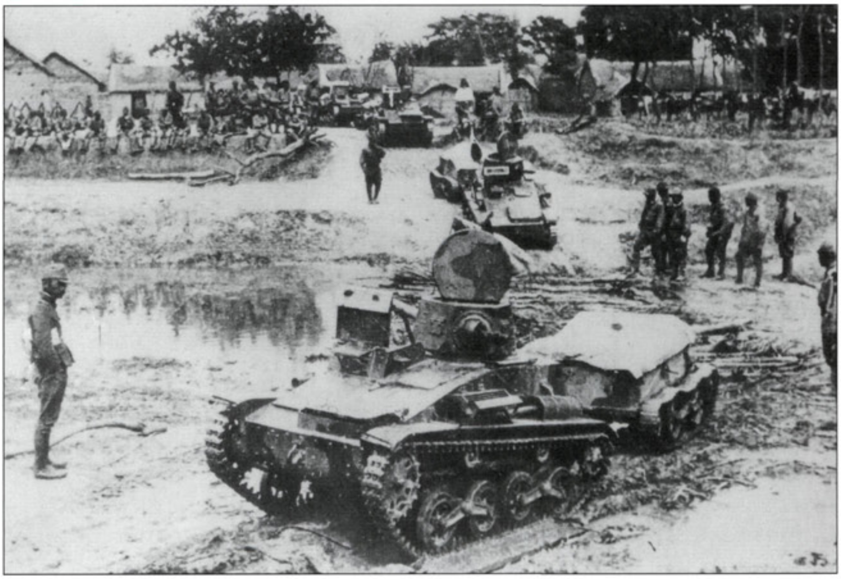
After the occupation of Linru, Gen Yamaji felt it important to occupy Longmen to support the capture of Luoyang, and assigned this mission to the Right Dash Group. When the group's tanks drew up before Longmen they came under AT gun fire. The Japanese probe revealed that a division-size Chinese force was deployed in the mountains near Longmen, and on the afternoon of the 5th the mobile infantry began to attack these positions. Fierce fighting continued for three days, but the Japanese reached the main mountaintop on the morning of May 7. The path to Luoyang was open.

On the 11th the 3rd Tank Div reached Luoyang, attacking the following day. However, Luoyang was well fortified, and proved difficult to assault with only a tank division backed by limited infantry, who were worn down from the three-day fight in the mountains. Twelfth Army halted the attack, and ordered the division to send a detachment to the Luo He river to pursue retreating Chinese. This detachment was formed from the Reconnaissance Unit, one battalion of mobile infantry, a battalion of mobile artillery, and engineers. On

軍神西住大尉
戰地に活躍當時

"Tank Hero Nishizumi," whose exploits were commemorated in a movie, a biography and a song. Lieutenant Kojiro Nishizumi graduated from military academy in 1934, and participated in the "Manchuria Incident" in China as an infantry officer. Back in Japan he undertook training with the 2nd Tank Regt at Narashino. During the "China Incident" he returned to the front as a platoon commander in 5th Tank Bn, which landed at Shanghai. He took part in more than 30 actions, and was reportedly a respected and popular leader; Lt Nishizumi was wounded several times, but never left the front lines. During the battle of Hsuchou in May 1938, Nishizumi was scouting a creek on foot to find a crossing point when he was shot and killed by a Chinese soldier. In this propaganda magazine portrait he wears the Showa Type 5 (1930) service uniform with old-style shoulder rank insignia.

Battle of Hsuchou, May 1938: Type 94 tankettes with ¾-ton Type 94 tracked supply trailers move up to the front, across a log corduroy laid over a shallow flooded depression. The painted camouflage pattern is clearly visible on the first vehicle.



May 15 it attacked Iyang and destroyed an estimated division-size Chinese force; advancing along the river, it occupied Luoning the next day and soon reached Changshui. This pursuit rendered ineffective the remaining Chinese elements retreating along the Luo He river. The delayed attack against Luoyang began on May 22; the 63rd Div provided the main assault force, supported by 3rd Tank Division. Luoyang was occupied on the 25th, with about 10,000 Chinese killed or captured.

The 3rd Tank Div had maneuvered about 870 miles, and had played an active part in the capture of Luoyang. However, the campaign had revealed problems: tank serviceability rates were poor, and large numbers of Chinese troops in Henan province escaped the Japanese siege because the tank division had rushed on to Luoyang instead. Twelfth Army complained about these points, but it was not entirely fair to blame the tank division. The official war history of the Republic of China stated that the relentless advance of the Japanese armored thrust contributed to the Chinese collapse. It is suspected that Twelfth Army still did not fully understand the essentials of the armored contribution to an offensive operation.

After the battles in Henan, Offensive "Ichi-Go" continued into its second phase, Operation "Togo 1," – the main southward advance of June–July 1944. The 3rd Tank Div's 6th Tank Bde with supporting units participated in the offensive, while the rest of the division remained in Henan for repairs and reconditioning. By the time the tank brigade arrived at Changsha in October most of its vehicles had been wasted by long continuous marches; the brigade was withdrawn and ordered to provide line-of-communications and rear-area security. They proved valuable in this mission, since their mobility enabled them to provide "mobile pillboxes" protecting key points on the routes, with sufficient firepower to deal with partisans and bandits. That was the end of 3rd Tank Div's participation in Offensive "Ichi-Go;" the 1st Tank Div remained in Manchuria, and most of the 2nd Tank Div deployed to the Philippines.

Offensive "Ichi-Go," Operation "Kogo," April 1944
3rd Tank Div (LtGen Hideo Yamaji)

- 6th Tank Bde (MajGen Katsuji Satake)
  - 13th Tank Regt (LtCol Einosuke Kurisu)
  - 17th Tank Regt (LtCol Kentaro Watanabe)
- Reconnaissance Unit (Col Jinzaburo Fukushima)
- 3rd Mobile Inf Regt
- 3rd Mobile Arty Regt
- AT Gun Unit
- Engineer Unit
- Maintenance Unit
- Transport Unit

Tactical organization

- *Dash-Forward (Advance) Group*
  - Reconnaissance Unit
  - Engineer Unit
- *Right Dash Group*
  - 13th Tank Regt
  - main body 3rd Mobile Inf Regt
  - half 3rd Mobile Arty Regt
- *Left Dash Group*
- 6th Tank Bde
  - 17th Tank Regt
  - elements 3rd Mobile Inf Regt
  - half 3rd Mobile Arty Regt

MALAYA, 1941–42

Jitra

Jitra is near the west coast of Malaya in the northwest portion of the country, close to the Thai border. In December 1941 British and Indian Army troops occupied an inadequately prepared defensive position stretching across a river valley. Rains flooded fighting positions and brought down telephone lines. The front stretched 14 miles, and was defended by just two infantry brigades. Two main roads and a railroad ran south down the valley, which was flanked on the west by coastal mangrove swamps and on the east by hills.

The Japanese 5th Div had landed at Singora, Thailand, on the opposite side of the Malayan Peninsula, and marched across the peninsula to enter Malaya from the north. Attached to the division was the Saeki Detachment formed around the 3rd Co, 1st Tank Regt under Lt Sigeru Yamane. The Japanese had little information on Allied defenses at Jitra, and the planned attack was a gamble. However, LtCol Saeki believed that the best option was to break through on the main road with a tank unit. He gave orders that "if one vehicle becomes immobile, abandon it and continue the advance. If two vehicles are immobilized, abandon them and advance. Run over enemy or even friends and advance until immobilized." Saeki's orders made it apparent that he was a former cavalryman.

The Japanese attack on the afternoon of December 11 was led by the Saeki Detachment charging headlong into the British defenses. The Indian troops had never seen tanks before. Even though there were only 11 tanks and a few tankettes, they created panic, especially since the AT mines laid in the sodden ground failed to stop them. Within a few hours the defenders were seeking permision to fall back, which was at first refused; finally a hasty retreat to a river line was authorized – but not to a more defensible position further on. Executed at midnight, the hastily prepared retreat became confused and disorganized; the Japanese tanks led the way into Jitra. On December 13 the Commonwealth forces retreated to the south after blowing the river bridge. Within just 15 hours the 5th Div had secured a vital route south, started the Commonwealth forces on their retreat to Singapore, and seized undamaged supply dumps and large numbers of much-needed abandoned vehicles.

Saeki Detachment, Malaya, December 1941
(listed as deployed in its single-file order of march)

3rd Tank Platoon (2× Type 97 medium)
3rd Co commander's tank (Type 97 medium)
1st Tank Platoon (3× Type 97 medium)
2nd Tank Platoon (3× Type 97 medium)
2× Type 95 light tanks, Co HQ
4th Tankette Co, 5th Recon Regt
1st Platoon, 2nd Inf Co, 5th Recon Regt
5th Recon Regt HQ
Signal Platoon
2nd Inf Co (-1st Plat), 5th Recon Regt
12th Platoon, 5th Engineer Regt
9th Co, 5th Mountain Arty Regt
1st Inf Co, 5th Recon Regt
Rear Guard Unit

May 1944: elements of the 3rd Tank Div advance on Luoyang during Operation "Kogo" in central China; a Type 97-Kai Shinhoto Chi-Ha tank is visible at left. The dusty, rocky terrain and rough roads seen here explain the breakdown of about one-third of the division's tanks during nearly 900 miles of road and cross-country marches in this first phase of the "Ichi-Go" offensive.

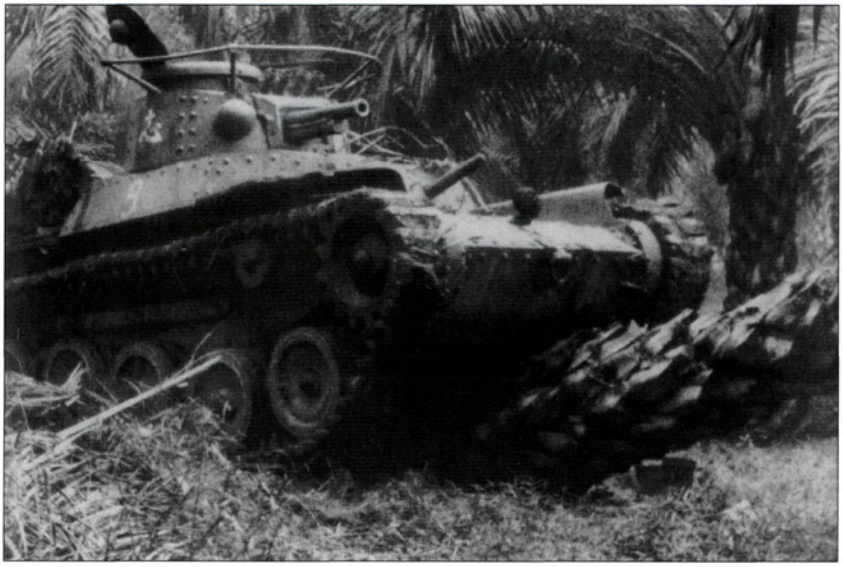
Slim River

In January 1942 the drive of the Japanese forces on the Malayan Peninsula was stopped by British defensive positions along the Slim River. The dense jungle terrain along the river concealed the defenses and served as an obstacle. The only road through the jungle was blocked by the well-dug-in British 12th Brigade.

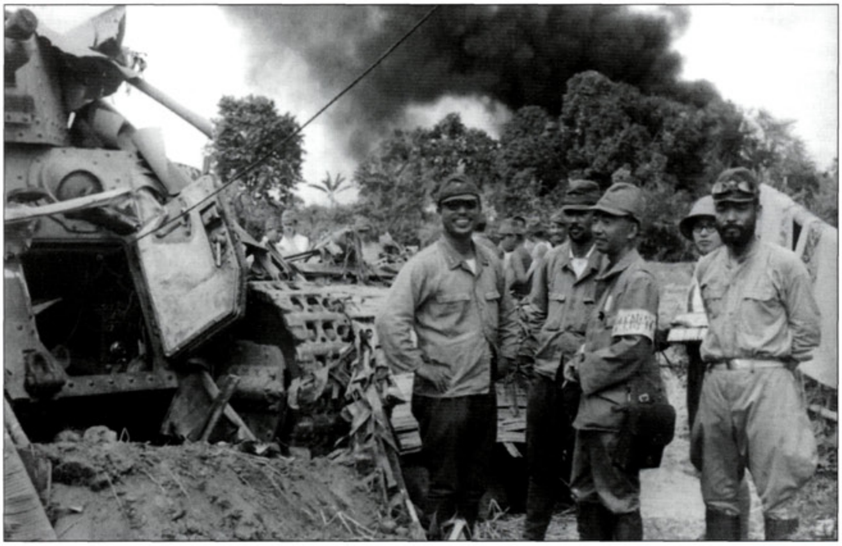
Maj Toyosaku Shimada, commander of 4th Co, 6th Tank Regt, planned to break through the British defensive line by executing a night attack. Colonel Ando, commanding the 42nd Inf Regt which Shimada's detachment supported, at first questioned his plan: a night-time tank attack was unusual and risky, especially in the jungle. Shimada strongly believed that it was the only way to break the Allied line quickly, and he had confidence in his plan.

Fifteen tanks (10× Type 97 mediums and 2× Type 95 lights from 4th Tank Co, with 3× Type 95 lights from Capt Noguchi's 1st Tank Co) participated in the unexpected night attack, while the rest of 1st Tank Co was held in reserve for the follow-on attack the next day. About 80 infantrymen and 20 engineers were attached to Shimada's tanks, which they would accompany on foot. As they had no experience of operating with tanks, Maj Shimada addressed them: "You are worried about the fight, but do not be concerned. The tanks will defeat the enemy and protect you. You should never fire. If the enemy attempts close-in attacks against the tanks, kill them with the bayonet. Engineers should remove obstacles on the road under the cover of tanks. Follow the tanks, and never separate from them."

On the night of January 7, the 15 tanks accompanied by 100 troops advanced on the road and attacked the British defensive positions, achieving complete surprise. Enemy fire concentrated on the tanks that were firing their guns, and the accompanying infantry and engineers only suffered a few casualties. The action unfolded just as Shimada had expected. Breaking through the defensive positions, Shimada's unit reached Trolak, where he considered his three options: to defend Trolak against counterattack while awaiting the arrival of friendly forces;



Malaya, 1941–42: a Type 97 Chi-Ha of 3rd Co, 1st Tank Regt knocks down a palm tree during the Saeki Detachment's advance. The white *Shi* character on the turret is the company symbol, and the "3" on the side of the hull is the vehicle number. There was no standard system for identifying companies within a regiment, and each unit developed its own system.



Luzon, Philippines, December 1941/January 1942: while the Japanese Twenty-fifth Army drove the British down the Malayan Peninsula, and the Fifteenth Army forced them to retreat from Burma into India, the Fourteenth Army was following the US forces in Luzon contracting onto the Bataan Peninsula. This Type 89 medium of 7th Tank Regt appears at first sight to be damaged, but this "wreckage" is simply a partial camouflage of sturdy banana branches. Note the asbestos lining on the inside of the open machine-gunner's access hatch in the front plate; few tanks of that era were so well insulated from external heat.

to swing back, attacking the remaining frontline positions from the rear, and coordinating with the attacking Japanese main forces; or to press on and attack Commonwealth reserves east of Trolak.

The first option was the most reasonable; but the Shimada unit was small and isolated, and might suffer heavily under counterattack from the east. The second choice was impossible, since it would expose him to being caught between the frontline defenders and their reserves located behind him, east of Trolak. The third plan was risky, because the Commonwealth strength east of Trolak was unknown; but if it were successful, he might be able to capture the important bridge crossing the Slim River. Shimada believed the tank to be above all a weapon for the attack, not defense; if he immediately launched a surprise attack east of Trolak he would be able to take advantage of the enemy's confusion.

Leaving his infantry and engineers to secure Trolak, Shimada led his tanks eastward, and encountered large British encampments of the 28th Bde and artillery units. In the darkness the Japanese tanks took these troops by surprise and quickly scattered them. Shimada's unit continued to advance, finally reaching the Slim River and securing the bridge. The aggressive action of a small number of tanks with limited support had destroyed in a single day the Slim River defenses held by two British brigades. The road to Singapore was now open to the Japanese juggernaut.

BURMA

The advance, March–April 1942

On March 6, 1942, five Type 95 light tanks of 1st Co, 2nd Tank Regt encountered about 20 of the British 7th Hussars' M3 Stuart light tanks near Pegu. They exchanged shots at ranges of from one thousand down to a few hundred yards; the 3.7cm gun of the Type 95 was largely ineffective against the American-made M3 Stuarts armed with a more powerful 37mm, and the Japanese lost four Type 95s burned out and one disabled. They claimed the destruction of one Stuart, but the others suffered no damage.

Although already considered obsolete in North Africa, where the British were also using them, in Burma the M3 Stuarts of 7th Hussars and 2nd Royal Tank Regt were a major problem for Japanese tanks. When the 1st Tank Regt arrived in Burma they undertook test-firing against an M3 hulk. They discovered that the armor-piercing round of the Type 97 medium's 5.7cm gun could not penetrate the M3 from any angle, at any range – an extremely disturbing revelation. Next they tried HE shells: three tanks concentrated their fire on the side of the M3's turret. A hole roughly 12in square was blasted in the armor plate – but the armor had not been penetrated by the shell, simply fractured by the explosion. From this test they concluded that by concentrating HE shells it was possible to destroy an M3 Stuart, but this gave them little confidence: the test had been conducted against a stationary tank by three tanks themselves firing from a stationary position – not at a bouncing, darting enemy tank, obscured by trees and itself returning fire.

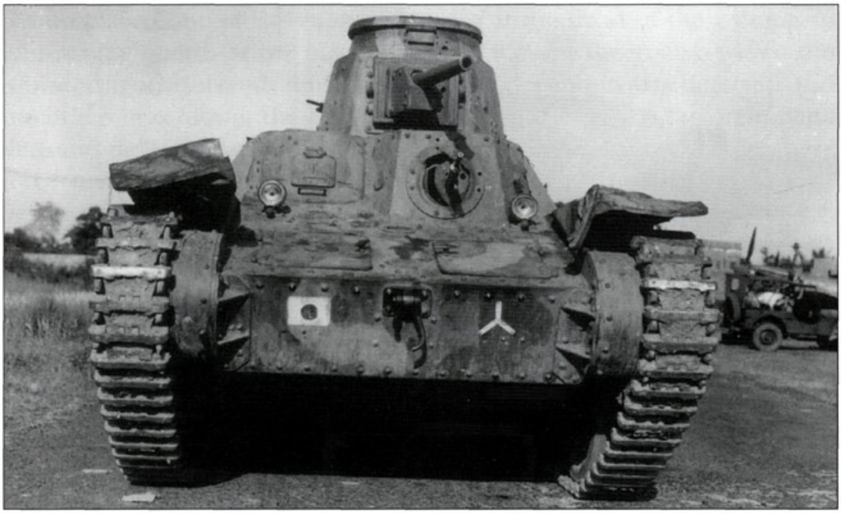
During the long British retreat to the Indian frontier the two Stuart regiments rotated in the rearguard role, which included aggressive patrolling. On April 25 a troop (platoon) from 7th Hussars shot up a Japanese motorized infantry column, running down it and back again firing at point-blank range. Around midday on April 27 the lead platoon of 1st Tank Regt spotted about 20 more Stuarts near Wundwin. They hid their tanks in thick bush and observed the British moving towards them. The commander of the leading 2nd RTR tank was exposed in his hatch and the driver's visor port was open. The platoon's three Type 95s waited until it came within extremely close range and opened fire with concentrated HE shells. The British tank was wrapped with explosions and quickly caught fire; the following Stuarts deployed into extended formation and began to return fire. At that moment the rest of the 1st Tank Co arrived on the battlefield, and the British fell back, but they continued to fight holding actions in retreat all that day.

The Japanese tank forces were outclassed by the British-manned M3 light tanks, but this did not prevent them from making an active and valuable contribution to the Burma campaign. They also managed to capture numerous M3 tanks, and used them to their advantage (though an attempt at a night-time infiltration at Prome using captured Stuarts was quickly detected and driven off).

Imphal, spring 1944

During this major series of engagements the 14th Tank Regt was attached to the Yamamoto Detachment of the 33rd Div, and advanced from Moleh toward Imphal. On the way the detachment was checked by the British at Tengnoupal, southeast of Imphal, on April 20, when Japanese troops supported by this unit's tanks attacked British positions without success. Tanks were unsuited to the hilly, densely vegetated terrain, and the regimental commander, Col Nobuo Ueda, ordered his men to withdraw. This roused the anger of Gen Yamamoto, and the regimental commander was replaced by Col Kiyosuke Ise.

Early in May the 14th Tank Regt was ordered to return to the 33rd Div; about 40 tanks of the regiment marched some 340 miles over bad roads through the Arakan mountains. Many tanks broke down, and only 14 finally reported to the 33rd Div late in May, on the soggy Imphal plain south of that town. With these tanks as a core, the Ise Detachment was



Imphal plain, Burma, spring-summer 1944: this Type 95 Ha-Go of 14th Tank Regt – attached during this campaign to the 33rd Div – displays the symbol of 3rd Co alongside the Japanese flag on the bow. This view demonstrates that the 3.7cm Type 94 gun had no armored mantlet, only a mounting bracket. The 7.7mm Type 97 bow machine gun lacks its armored cover, and the ball mounting has been damaged by a hit.

While this captured Ha-Go has conventional front armor, it is interesting that 14th Regt's Col Ueda ordered additional armor, taken from M3 Stuart tanks abandoned in 1942, to be attached to the fronts of the leaders' tanks in each company's 1st Platoon, which always led company columns. Army HQ declared that it was illegal to attach them directly to the tank – on the grounds of unauthorized interference with government property – so six iron stays were welded to an armor plate and then bolted to the hull. The result of stupid bureaucracy was thus actually an advantage, since it provided spaced armor. In the failed April 20 attack at Tengnoupal, Type 97 mediums with this added armor survived hits from British 6-pdr (57mm) AT guns.

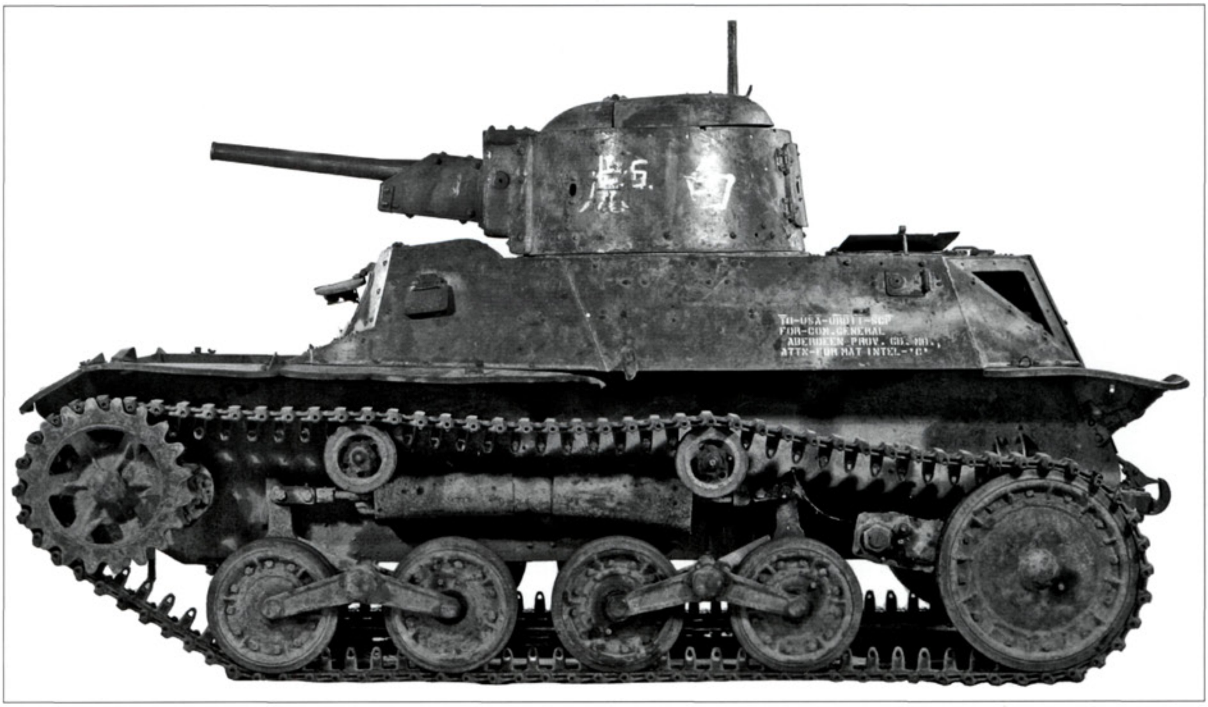
formed. Its attack north of Ningthoukhong early in June was a failure, and the detachment went into a defensive position at Ningthoukhong. They defended this for about a month, and lost many men (including the new commander) before being ordered to withdraw in mid July. After the prolonged rainy season it was found that the long-dug-in tanks were stuck in their muddy pits, and most had to be abandoned.

During the prolonged battle of Imphal the only known engagement took place between a M3 light tank and a M3 medium tank. On March 20, 3rd Co, 14th Tank Regt ambushed a mixed British column advancing through thick country in the Kabaw Valley to relieve a trapped infantry unit; Lt Millar's platoon of M3 Lee mediums from 3rd Carabiniers led the column, and the A Sqn HQ platoon under Maj Pettit brought up the rear. The American-built M3 Lee/Grant series had both a sponson-mounted 75mm gun (used for bunker-busting) and a 37mm turret gun; but the ambush was skillfully positioned, allowing the Type 95 lights to fire into the thinner side armor of the Lees, whose hull-mounted 75mm guns could not be brought to bear and whose high-mounted turret guns could not immediately depress enough.

Three Type 95 lights opened fire from one side of the track, but their 3.7cm AP shells mostly bounced off the M3s' armor. While the HQ platoon of Lees came forward to join the action, Sub-Lt Hanabusa, a platoon commander mounted in a captured M3 Stuart, moved around through heavy cover and found a position to the rear of one of Millar's tanks. He opened rapid fire, and one of these hits penetrated the engine compartment and set the Lee ablaze (a weakness of the M3 medium). The British crew bailed out with some casualties; there followed a short but intense firefight in a clearing, which left five Type 95 lights burning and the sixth disabled and captured. This was the last occasion on which Japanese tanks in Burma deliberately sought combat with their Commonwealth counterparts.

Java, March 1942

The Japanese conquest of the Netherlands East Indies progressed more smoothly than the Japanese had expected; Borneo, Timor and Sumatra were quickly occupied, leaving the main island of Java surrounded and



The Type 97 Te-Ke tankette, armed with a 3.7cm gun, as used by the 2nd Reconnaissance Unit on Java in March 1942.

isolated. The Japanese GHQ advanced the schedule for the conquest of Java by a month, and ordered Sixteenth Army to invade at the end of February.

The plan was for Sixteenth Army to land on the north coast of Java at three points simultaneously. The main force – 2nd Div, and other units under the direct control of the accompanying Army HQ – would land at Merak at the eastern end of the island, to seize the capital at Batavia. The Shoji Detachment would land at Eretanwetan further to the west; the 48th Div and the Sakaguchi Detachment would land at Kragan to seize eastern Java. The armor units attached to these forces are shown in the opposite panel.

The planned route of 2nd Div eastward from Merak to Batavia crossed the Tjioedjoeng River over three bridges: the southernmost at Rangkasbitoeng, the central at Pamarajan, and the northern at Kopo. In order to capture these bridges before they could be destroyed by the Dutch, 2nd Recon Regt under LtCol Noguchi was ordered to land first and make a dash for the river crossings. The regiment was divided into three groups: the "K" Advance Group aimed for Kopo, and the Right Advance Group for Rangkasbitoeng, each group with 5x tankettes; the Left Advance Group, with 3x tankettes, headed for Pamarajan.

At midnight on March 1, 18 Daihatsu landing barges left the transport ships and ran in to the beach at Merak, reaching it at 2.30am. Immediately debarking, Japanese troops advanced for Serang without showing lights, engaging some small Allied elements while they made for the road. They reached a bridge at Serang at 4am, neutralized the bridge guards and captured it intact. After Serang the reconnaissance regiment separated into its three groups. While on the road from Serang to Rangkasbitoeng, the Right Advance Group met and captured a score of Dutch soldiers aboard three trucks, which were moving to reinforce the bridge they had just captured. The commander of the Right Advance

Group placed one of the captured trucks at the head of the column to mislead the guards at the next bridge. At 9.30am the guards waved the captured truck through, but somehow the deception was detected and the bridge was blown; the bridge guards trapped on the Japanese bank fled, and those on the opposite bank opened fire. However, the Japanese force managed to drive the enemy away and secure Rangkasbitoeng, before rejoining their regiment at 3pm on March 2.

When the "K" Advance Group entered Serang the commander's tankette ran over a mine; the driver was badly wounded but commander Nakamura was safe. The group reached Kopo at 4.50am, to find that the bridge had already been destroyed. When entering Kopo the tankettes came under fire from Dutch Indonesian troops, but when Nakamura shouted to them in Indonesian and demanded their surrender they dropped their weapons.

The Left Advance Group reached Pamarajan at 9am, and commander Shiraishi stormed the bridge. Halfway across it he saw that Allied soldiers were trying to detonate the pre-emplaced explosives, but he fired upon them and killed them. Then a Dutch armored car came up from behind; Shiraishi fired again, and disabled it. Japanese infantry dashed onto the bridge and removed the explosives.

After crossing the Tjioedjoeng River at Pamarajan the reconnaissance regiment advanced on Buitenzorg instead of its original objective, as the road connecting to the Selang-Batavia highway could not be found. On the evening of March 2 they clashed with 50–60 Allied troops around Balungan, coming under heavy fire from an antitank barricade. While the tankettes engaged the defenders, the main body left the road and moved around through the forest, attacking from a flank and forcing the Allied troops to withdraw.

On the afternoon of March 3 the vanguard of the reconnaissance regiment reached Leuwiliang after being delayed by many road barricades. By the time they reached the town the bridge over the Tjisadane River had already been destroyed. Two Japanese crewmen dismounted from the lead tankette and scouted on foot for a possible crossing-place, but were killed by fire from Allied troops dug in on the hills behind the far bank, who had both artillery and machine guns. The tankettes returned the fire, while Japanese field artillery moved up to bombard the defenders; however, at the end of a day-long fight a river crossing had still not been achieved.

That evening Gen Nasu, commander of 2nd Inf Group, arrived at Leuwiliang with his 16th Inf Regt, which he ordered to attempt the difficult task of a night crossing. The infantrymen succeeded in crossing the river just under 2 miles south of Leuwiliang, and successfully attacked the Allied hill positions from the flank. On the morning of March 5 the reconnaissance regiment crossed the Tjisadane River on rafts and advanced on Buitenzorg, which was occupied by troops of the Nasu Detachment on the morning of March 6. The reconnaissance regiment was ordered to advance to Soebang, and was ready to march from Buitenzorg by March 8; however, while on the road to Soebang they received word that the Dutch forces had surrendered.

During the Java campaign the tank unit attached to the 2nd Div was held in reserve and did not participate in the fighting, simply mopping up by-passed Allied groups.

Armor on Java, March 1942

2nd Division

2nd & 4th Cos, 2nd Tank Regt (21× Type 97 medium)

2nd Recon Regt (16× Type 97 tankettes)

Shoji Detachment

1st Co, 4th Tank Regt (10× Type 95 light)

48th Division

3rd Co, 4th Tank Regt (10× Type 95 light)

3rd Co, 2nd Tank Regt (10× Type 97 medium, 5× M3 light)

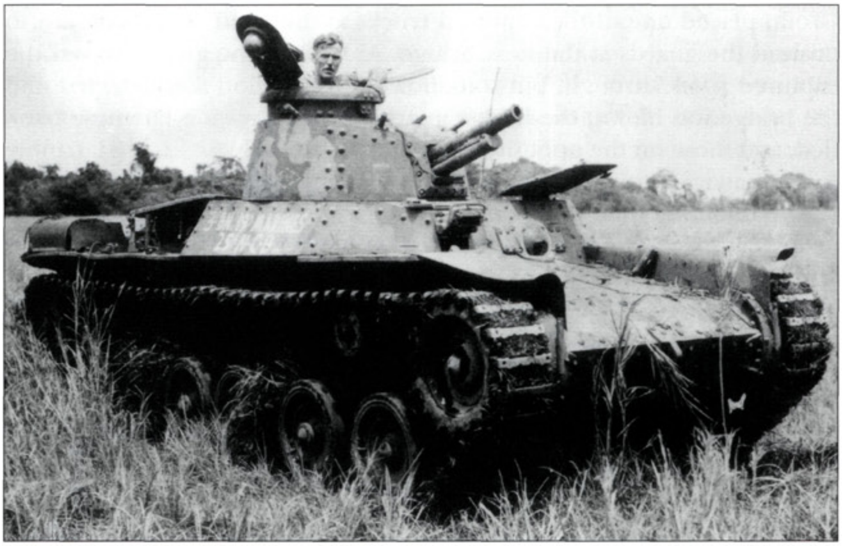
48th Recon Regt (16× Type 97 tankettes)

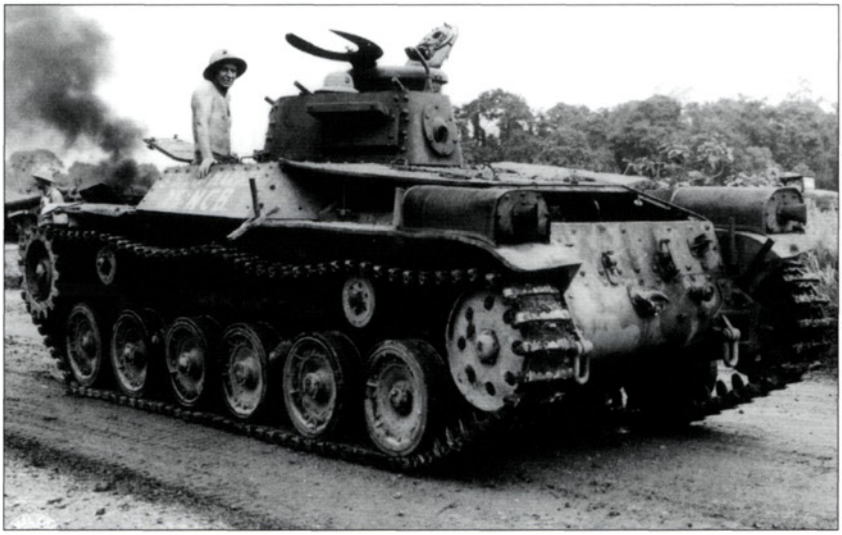
Sakaguchi Detachment

56th Inf Group Tankette Unit (8× Type 97 tankettes)

North Sumatra

2nd Co, 4th Tank Regt (10× Type 95 light)





Guadalcanal, October 1942: two views of a captured Type 97 Chi-Ha medium of Capt Maeda's 1st Independent Tank Company. Note the two-piece commander's hatch – with only the right-hand center section opened (as at nearside, top) he could expose his head in the horseshoe-shaped left-hand hatch (nearside, below). Painted on the sides in two lines is the name of the new owners: "3rd BN. 19th MARINES/ 25th N.C.B." – the 3/19th Marines and 25th Naval Construction Battalion were one and the same unit.

THE PACIFIC ISLANDS

Guadalcanal, October 1942

The 1st Independent Tank Co was organized from the 4th Co, 2nd Tank Regt after the Netherlands East Indies campaign. It reached Guadalcanal in the Solomon Islands on October 14, 1942, aboard a convoy of six transports, and all tanks were disembarked safely. Three days later one Type 97 medium of 3rd Platoon was damaged during an American naval bombardment; an idler wheel was broken, and since the company had no spares this immobilized the tank.

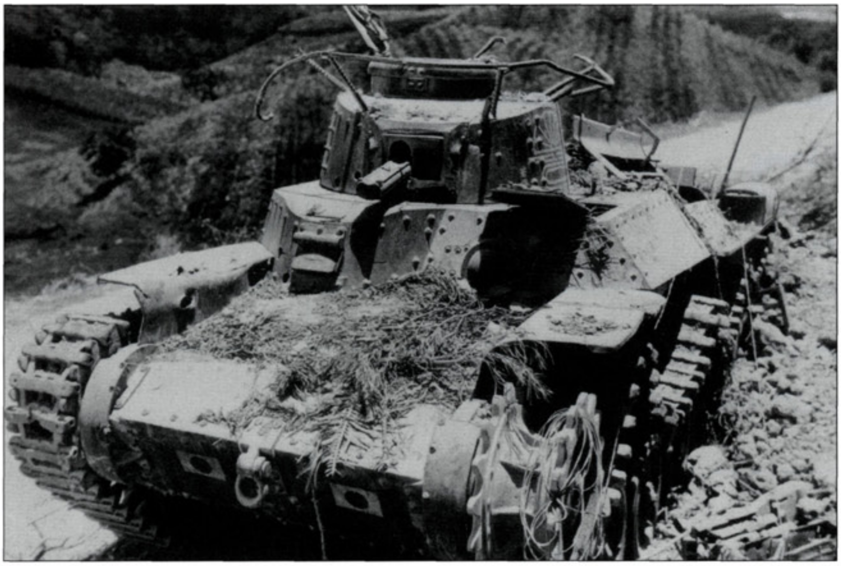
The Japanese would launch their second major attack on the US Marine perimeter on October 23. The Sumiyoshi Force was composed of elements from Seventeenth Army, 2nd Div and 35th Inf Brigade. The Force's main body consisted of 4th Inf Regt (-3rd Bn); 3rd Bn, 2nd Field Arty Regt; 4th Field Heavy Arty Regt; and 1st Independent Tank Company. It would attack the western end of the Marine perimeter, across the mouth of the Matanikau River.

1st Independent Tank Co, Guadalcanal, October 1942
Company HQ
(Capt Yoshito Maeda)
1× Type 97 medium, 2× Type 95 light
1st Platoon (Lt Sanae Harada)
3× Type 97 medium
2nd Platoon (Lt Tsukasa Ikeda)
3× Type 97 medium
3rd Platoon (Cadet Yamaji)
3× Type 97 medium
Train (WO Nakabayashi)
2× repair vehicles, 1× truck
Total strength: 104 men, 12 tanks

From October 19 the tank company scouted the west bank of the river where it reached the ocean; at low tide the mouth was crossable via a sandbar on the beach. On the first day the 2nd Platoon approached the riverbank and returned safely without any US response. On the second day, when the 3rd Platoon reached the bank the platoon leader's tank was hit by a 37mm AT round; one crewman was wounded and the tank's gun disabled. On the third day the 1st Platoon advanced to the riverbank and engaged and destroyed an AT gun without loss.

Company commander Maeda knew that the clear ground around the river mouth would be completely exposed to US fire; he therefore proposed that the infantry should cross first with artillery support, and secure the opposite bank before the tanks crossed and attacked toward the airfield. However, his proposal was rejected on the grounds of shortage of artillery ammunition. The Sumiyoshi Force was commanded by an artillery officer, who felt that the tanks could make it across the river against US machine-gun fire, to clear the far bank before the infantry crossed. In the face of this decision Capt Maeda accepted that he was going to his death. The earlier probes had naturally alerted the Marines to be ready for a tank attack; they had positioned more 37mm AT guns and halftrack-mounted 75mm guns, and M3 light tanks were held in reserve nearby.

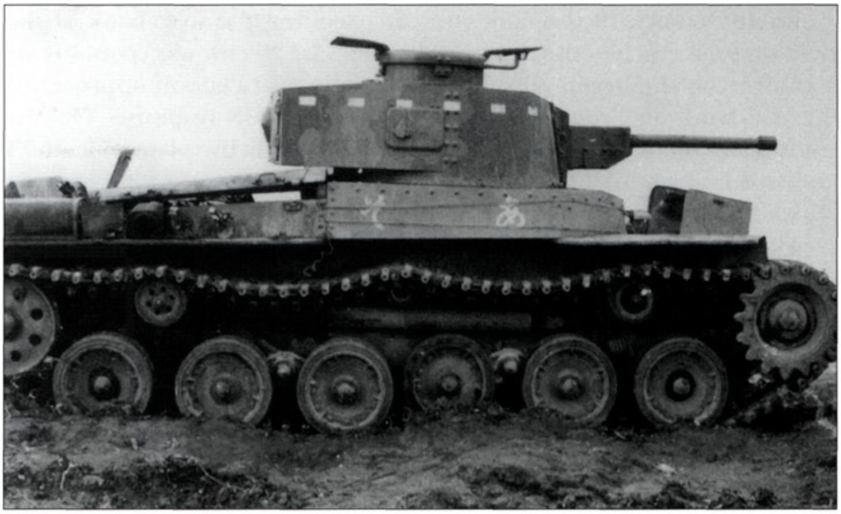
At 2.30pm on October 23, the ten tanks moved out and down to the beach together with the infantry. During the approach march Capt Maeda's tank broke down, so the company commander transferred to the 3rd Platoon leader's tank. About 500 yards short of the river US artillery fire began to fall around them, and the infantry melted into the jungle to avoid the bombardment; when the tanks reached the bank of the Matanikau at around 5pm they were unsupported. As darkness was approaching, 2nd Platoon leader Lt Ikeda decided to cross the river without the infantry, and Lt Harada's 1st Platoon followed. Immediately they showed themselves the Type 97s came under intense fire, but Ikeda's tank made it across the bank and advanced some 10 yards into the river before a shell hit the turret, killing Ikeda and his gunner; the



Saipan, June 1944: this Type 97 Chi-Ha was knocked out by multiple hits. The "floating chrysanthemum" crest of Capt Shibata's 5th Co, 9th Tank Regt is painted in white on the turret, and small red-and-white Japanese flags on the lower bow plate. The 5.7cm gun was knocked off, and only its recoil cradle remains.

tank stalled in the soft river sand, and the two surviving crewmen bailed out. The second and third tanks of the 2nd Platoon managed to cross the river, but they bogged down on the east bank and both were destroyed by US fire.

When Lt Harada crossed the river in the 1st Platoon lead tank a mine or shell destroyed its tracks; the crew bailed out and retreated. The second 1st Platoon tank sank in the river and two crewmen were drowned; the third Type 97 was hit by a shell and the entire crew were killed. The 3rd Platoon leader's tank, now commanded by Capt Maeda, was slow to arrive; when it rumbled up to the river crossing point it was hit by a shell that killed both Maeda and platoon leader, Cadet Yamaji. Two Type 95 light tanks of the company HQ were also destroyed after crossing the river. Of the 44 crewmen, only 17 survived the attempted crossing, of whom seven were wounded; the 1st Independent Tank Co had ceased to exist. The infantry attempted to fight their way across the river throughout the night; US Marine M3 and M2A3 light tanks arrived just after the Japanese tanks had been halted, and helped to beat off these infantry assaults. A second attempt to carry the river defenses was made the following night, but this also failed.



This Type 97-Kai Shinhoto "improved" Chi-Ha has a white broken turret stripe identifying the tank of the commander of 9th Tank Regt on Saipan, Col Masa Goshima; only one of these 4.7cm-gun tanks was available for each company. The character on the side sponson is *Aso*, the name of a mountain in Japan.

Saipan, June 1944

In mid-1944 the Japanese expected the Americans to land on Saipan's central or lower west coast. Most of the 9th Tank Regt's 48 tanks were to assemble 2 miles east of Garapan if the landing occurred at Garapan or Tanapag Harbor on the central coast. If the landing took place at Charan Kanoa on the lower west coast, or Magicienne Bay on the east coast, the tanks would assemble half a mile north of Aslito Airfield, but one company was positioned within Charan Kanoa.

The US 4th Marine Div landed at Charan Kanoa on June 15, and 4th Co, 9th Tank Regt conducted piecemeal counterattacks on either side of Charan Kanoa; all but three of its 14 tanks were lost. At 5pm, June 16, 136th Inf and 9th Tank Regts IJA and SNLF troops were to counterattack the center of the 2nd Marine Division, which had landed north of the 4th Division. The units were still disorganized from the previous night's action, and the attack was not finally launched until 3.30am the next morning, when an estimated 37 tanks and some 500 infantry hit the Marines. They were met by Marine M4A2 Sherman tanks, M3A1 halftrack-mounted 75mm guns, 37mm AT guns, bazookas and artillery, which between them destroyed at least 24 tanks and killed some 300 infantry. The attack, the largest tank-vs-tank encounter in the Pacific Theater, was broken off at 7am; the Marines suffered about 100 casualties.

9th Tank Regt, Saipan, June 1944

9th Tank Regt

(Col Masa Goshima)

1st Co (Lt Sekimi Yuki)

  17× Type 95 light

2nd Co (Capt Tsunenari Sato)

  10× Type 97 medium, 1× Type 97 Improved medium, 3× Type 95 light

3rd Co (Capt Norio Nishidate)

  as 2nd Company

4th Co (Capt Nario Yoshimura)

  as 2nd Company

5th Co (Capt Katufumi Shibata)

  as 2nd Company

Maintenance Company

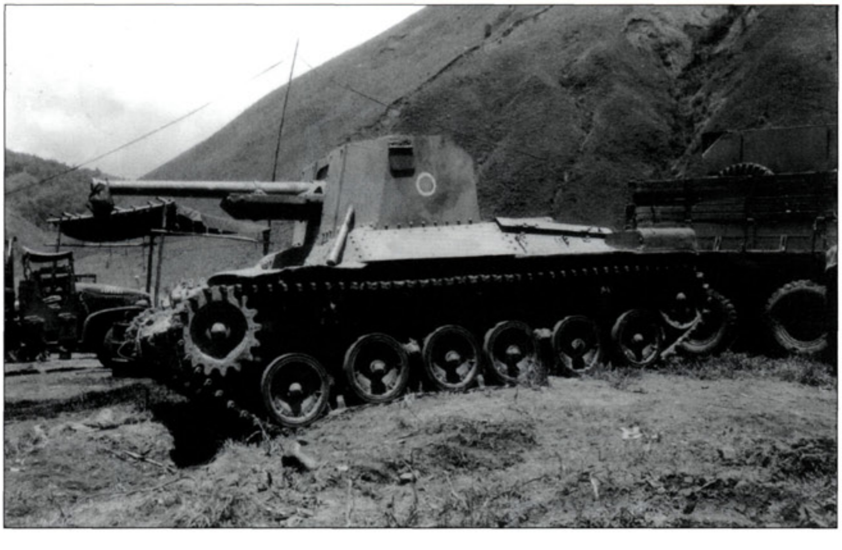
(Lt Mamoru Torikai)

Note: 1st & 2nd Cos were sent to Guam

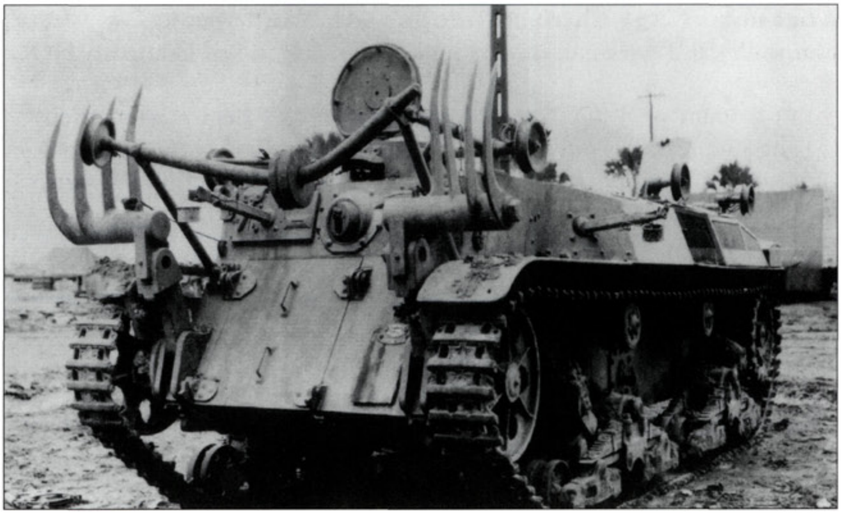
Account of Sgt Shiro Shimoda, 9th Tank Regt

Shimoda was a crewman of a Type 95 light tank in 3rd Company HQ:

> At 2.30am on June 17, all tanks of 9th Tank Regt started their engines. I was excited to be going into my first battle. When I passed the ridge and saw the beach it took my breath away. Countless tracers and star shells were lighting up the night sky like daytime; red streaks of enemy tracers were flying directly at us as if they were waiting for our tanks.
>
> We had to advance in two columns due to the rough terrain. Usually the line formation was used for the attack, but we were forced to advance in a disadvantageous formation. Our tanks rumbled down the ridge and dashed into the enemy positions. Infantrymen rode on the backs of our tanks. "Fire into the sky!", shouted SgtMaj Nakao, my tank commander. Because of the column formation, shooting forwards would damage a friendly tank; so he told us to fire into the sky, to frighten the enemy with our tracers. I aimed my machine gun upwards and pulled the trigger. SgtMaj Nakao was loading a round into the main gun.
>
> Most of the infantrymen on our tanks were killed or simply abandoned us. Due to the unusual column attack, tanks were disordered and the chain-of-command ceased to exist. The leading parts of the columns advanced deeply [into the US lines] and a confused fight developed. I was only pulling the trigger unconsciously. Star shells were lighting up our tanks and American gun and bazooka fires were destroying them. American M4 Sherman tanks suddenly appeared and we opened fire on them, but our shells bounced off them like baseballs owing to their thick armor. Tanks of 9th Tank Regt were destroyed one after another, bursting into flames and burning with billowing smoke. The few surviving infantrymen had also fallen by now. My tank was passing the company commander's tank when it was hit; red flames burst out, and no one escaped – [Capt] Nishidate and his crew were all killed immediately.



Luzon, 1945: a Type 1 Ho-Ni I 7.5cm self-propelled gun of 2nd Tank Div; note the HE round resting on the front fender. Designed as a mobile artillery piece, this AFV was more often employed as a tank-destroyer.



Another capture from 2nd Tank Div on Luzon: an "SS" armored engineer vehicle of the division's Engineer Unit. The forks on the bow were for plowing up AT mines, and could also tear breaches in barbed wire and dense vegetation.

> My tank shook with a hard impact and the engine stopped. "Damn it!", shouted the driver, Senior Pvt Asanuma. The track links had been damaged and the treads knocked off the bogie wheels; the drive sprockets were turning idly. "Let's get out!", shouted SgtMaj Nakao. I removed the machine gun and passed it to Asanuma, then I climbed out first. The machine gun was handed down to me and Nakao and Asanuma got out of the tank. We jumped into a shallow ditch in front of us, with tracers streaming over our heads.
>
> The fierce fighting continued. There were still tanks running some tens of meters from us. The Americans were still destroying our tanks. SgtMaj Kawakami, my comrade since Manchuria, bailed out of his damaged tank and rushed an enemy position alone, brandishing his sword. I was feeling too self-conscious to remain just an onlooker; sometimes I tried to move forward holding the machine gun, but I was stopped by SgtMaj Nakao. He said, "Don't be in a hurry to die – the fight has just begun. Trust me in this matter." Two hours later we were [still] watching the fight.
>
> At the first gray of dawn the sounds of firing dwindled and the results of the fight became clear. It was an appalling sight to see the smouldering wrecks of 24 tanks scattered across the battlefield. SgtMaj Nakao ordered us to withdraw to the company HQ at Chacha. While we were crawling up the rocky mountainside trying to find our way back to the HQ, Nishida's lone tank passed us, heading to the rear. He stopped the tank at the ridge and shouted, "All our friends were annihilated!" It was the end of the 9th Tank Regiment.

The regiment's few surviving tanks would fight on in small groups. Two five-tank attacks were launched at Marine and Army lines on June 23, but most were destroyed. The next day the Marines beat off two counterattacks, one by seven tanks, of which only one escaped.

Luzon, January–February 1945

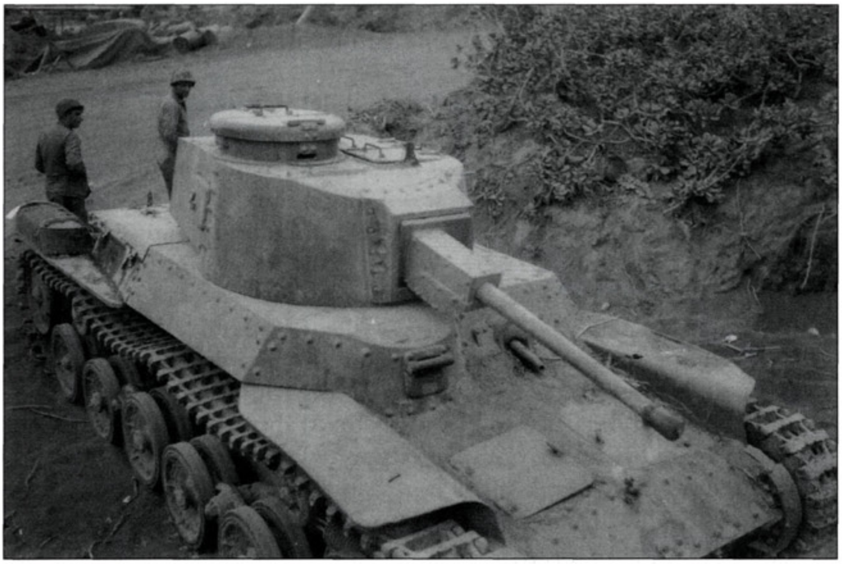
In August 1944 the 2nd Tank Div deployed to Luzon, the main island of the Philippines, as US forces secured the Marianas and Dutch New Guinea. The American return to the Philippines began in October 1944 with the landing on Leyte, and the assault on Luzon commenced on January 9, 1945. General Yamashita held the tank division back, refusing to waste it in pointless counterattacks. He husbanded most of his forces, withdrawing into the rugged north; he planned to choose his battleground, draw the more mobile Americans into less favorable terrain, and extend their supply lines to the interior – where they would also forfeit their naval gunfire support.

The 2nd Tank Div began moving inland immediately after the US landing, but found itself subjected to air attacks, restricted by weak bridges, and limited by fuel shortages. As the Americans pushed inland, the division's widely scattered units made small spoiling attacks to slow their advance; this was also achieved by small tank detachments digging in at road junctions and in villages. Much of the division dug in around San Jose; the American drive towards that town began on February 1; and in just over a week of vicious fighting the Japanese division lost 108 of its original 220 tanks. After that, Japanese armor was widely scattered in detachments, either supporting infantry attacks (in which they were easily picked off) or dug in at roadblocks. Small tank engagements were recorded on Luzon until the end of the war.

Account of Warrant Officer Kojuro Wada, 7th Tank Regt

This warrant officer was a platoon leader in his regiment's 3rd Co during the battle at Urdaneta:

> Around 8am on the 17th, six or seven infantrymen from an outpost near a bridge hurried past at a run, shouting "American tanks are coming!" I asked, "Only tanks?", and they replied, "Accompanied by guerrillas." I ordered the tanks of my platoon to get ready, and asked the infantrymen, "How many enemy tanks?" "Many – more than 20," they replied.
>
> Tank engines started and gun muzzle covers were removed. We backed off the road and into the palm trees. Running 6 or 7 metres up the road, I stuck a mango branch in the ground in



Iwo Jima, February–March 1945: one of the Type 97-Kai Shinhoto Chi-Ha improved medium tanks of LtCol Nishi's 26th Tank Regt captured on the island.

2nd Tank Div
(LtGen Yoshiharu Iwanaka),
Luzon, January 1945
3rd Tank Bde
(MajGen Isao Shigemi)
  6th Tank Regt
  (Col Kimihira Ida)
  7th Tank Regt
  (LtCol Takao Maeda)
  10th Tank Regt
  (LtCol Kazuo Harada)
2nd Mobile Inf Regt
2nd Mobile Arty Regt
AT Gun Unit
Engineer Unit
Maintenance Unit
Transport Unit
Signal Unit
Casualty Clearance Unit

front of my platoon and shouted, "Don't shoot until the leading enemy tank reaches this point... Our gun can easily penetrate around the return rollers of an M4 tank, so take it easy! If enemy infantry come, open fire with the machine guns." I heard battle-cries from my second and third tanks.

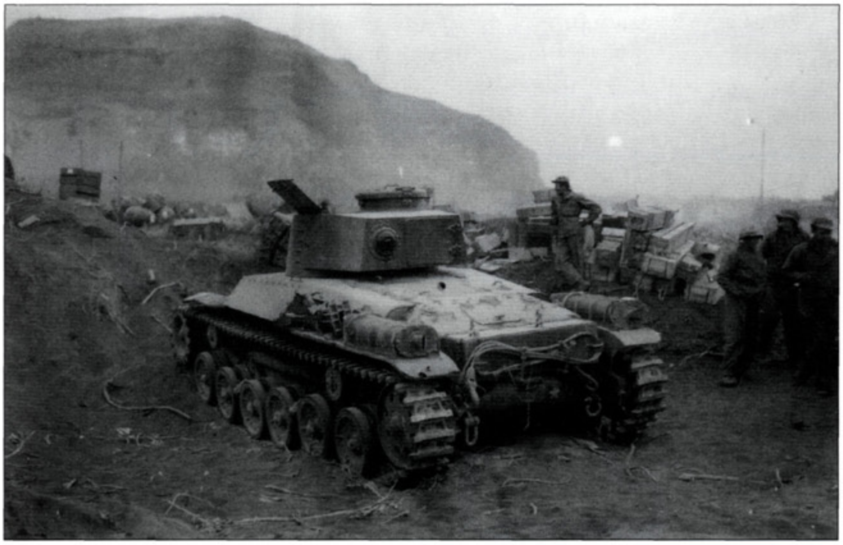
As I watched with my head out of the hatch, Sgt Suzuki in the third tank signaled that M4 tanks were approaching, by waving his arm without a word. I heard faint track noises... One, two, three enemy tanks appeared among the palm trees; the white star painted on the front of each tank was clearly visible. They were 100m away – 70m – 50m – 30m – but [still] they did not notice our tanks, because we were well camouflaged. Guerrillas wearing various colored clothing were following the tanks at a distance. I ordered Gunner Kotani not to fire too soon. At last, they reached the range marker and our third tank fired [first, with the second and our own tank immediately following suit].

At the same time as the expended case hit the floor Driver Yamashita shouted, "Hit!" The leading tank caught fire and turned to the opposite side of the road. It looked huge to me. The second enemy tank also caught on fire after several hits; Cpl Yamashita was delighted, and yelled, "Got 'em! Got 'em!" Our three tanks concentrated their fire on the third enemy tank. We had revealed our positions, and the third enemy tank turned off the road and confronted us at a longer range. The three tanks of our platoon fired about 60 rounds rapidly, but they all skipped on the thick armor of the M4, the ricocheting rounds arching upwards detonating with white-purple flashes – Sgt Kotani shouted, "Irritating!" Corporal Yamashita, loading the next round, gave a cry: a rivet knocked loose by an enemy shell hit was protruding from his right knee. Senior Pvt Kato plucked the rivet out and applied a bandage.

I saw a fire over my right shoulder and heard a deafening explosion. The tank jolted and the engine coughed out; Sgt Kotani, firing the gun, asked urgently, "What happened?" I told Kotani not to shoot, and climbed out of the tank. A red flame blew out from the side of engine compartment; an enemy shell had hit the engine.

The M4 tank before us was immobile, but its turret was still traversing slightly. I murmured, "There are still enemy tankers in there." From inside the tank Sgt Kotani said, "There's only five AP rounds left." I ordered the crew out of the tank.

Sgt Suzuki's and Sgt Kokai's tanks were still operational, but Kokai and his gunner were wounded, as an enemy shell had pierced through the base of gun mount. As the crew of the third M4 would be panicked by the many hits, I ordered Sgt Suzuki to move to the side of the enemy tank and fire at point-blank range. His tank moved to the right and fired: the round ricocheted off, and he moved in closer and fired again. At the same moment the American tank fired: nothing happened for a moment, then suddenly Suzuki's tank burst into flames. Smoke rose from the side of the M4, then changed into flames – they had hit each other at the same time.



This Type 97 Improved on Iwo Jima provides a rear view showing the turret machine gun mount; to the right of it, note the hatch used both for escape and for loading ammunition. In the background is Mount Suribachi.

Manchuria, August 1945

At one time the Kwantung Army had 10 tank regiments in Manchuria, but many tank units were transferred to the Pacific as the war intensified. When the Soviets invaded Manchuria in August 1945 only four tank regiments remained – and two of those had been organized only four days before the Soviet invasion.

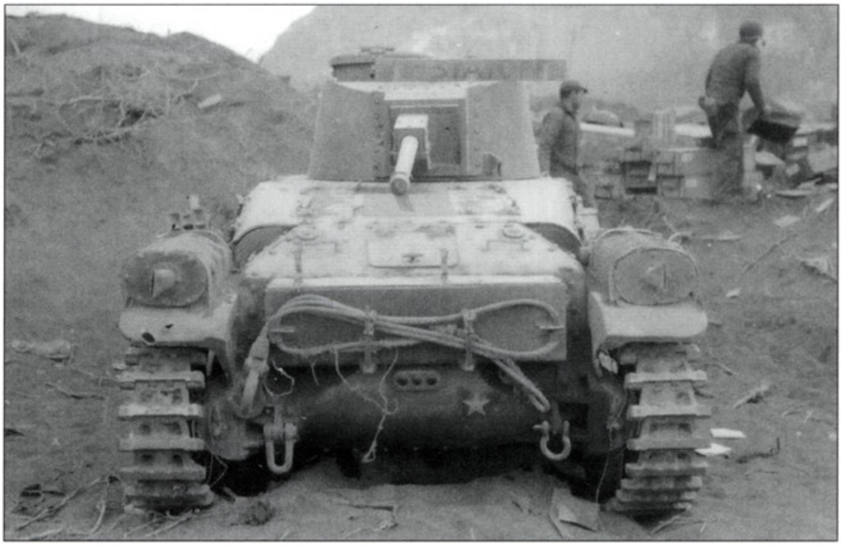
One of these units, the 34th Tank Regt, moved from Siping to Mukden to defend this key transportation hub. Word was received that Japan had announced its intent to surrender to the Allies, and the regiment and other units surrendered without a fight, including the 35th Tank Regt defending Xinjing (Changchun), and the 51st and 52nd Tank Regts at Siping.

However, there was one tank unit in Manchuria that chose not to surrender to the Soviets without a fight. On August 11 a tank company was assembled by order of the Fifth Army; it consisted of nine Type 95 light tanks stored at the 17th Field Motor Vehicle Depot, and was commanded by a Lt Mizutani. On August 12 this scratch company was deployed to Aihe, near Mudanjiang; and the following day Aihe was attacked by about 100 T-34 tanks supported by infantry and artillery. The little Type 95 lights fired on Soviet tanks on which infantry were riding; they inflicted no losses on the Red Army tanks, and lost three of their own. On the 15th the remaining Japanese tanks were ordered to withdraw; after the retreat the company, which had been reduced to just three tanks, surrendered to the Soviets at Handaohetsi, west of Mudanjiang.

Shimushu Island

Shimushu is the northernmost of the Kuril Islands, and the notional border between Japan and the USSR runs between Shimushu and the Kamchatka Peninsula. Among some 8,000 Japanese troops garrisoning this remote island was the 11th Tank Regt, with 20x Type 97 Improved medium tanks, 19x Type 97 mediums, and 25x Type 95 light tanks. Colonel Sueo Ikeda's regiment comprised 1st–6th Tank Cos commanded by Capts Funamizu, Miyaie, Fujii, Itoh, Furusawa and Komiya respectively, and the Maintenance Company led by Capt Takahashi.

In this rear view the turret of the Type 97 Improved – one of the 11 deployed to Iwo Jima – is rotated to the rear. Below the tow cable stowed on the rear hull is a small white IJA star. The Marines have added a "Stay Off" sign to discourage souvenir-hunters.



After the announcement of Japan's surrender on August 15, the tanks ceased to be maintained and guns and ammunition were removed. The actual surrender would not take place for two weeks and, while ordering its forces to cease offensive operations, Japan reserved the right of self-defense. Stalin had long wished to gain control of the Kurils, and decided to seize them before American occupation troops arrived.

The tanks were not ready to fight when the Soviets struck Shimushu with just over 8,000 troops on August 18; the crews of about 20 of them worked hastily on their tanks even as they followed Col Ikeda from the 11th Tank Regt's base at Shikondai near the island's southwest end. At around 5pm they reached Mt Tenjin near the island's center, and at 6.30pm they advanced north toward Mt Shirei. By the time they encountered a Soviet company near the latter the Japanese force had increased to 30 tanks.

At 6.50pm they attacked the Soviet troops and overran them. At 7.50pm, Col Ikeda decided to attack the nearby landing beach at the island's northern end. The Japanese tanks charged into the beachhead, attacking through the scattered defenders, while the Soviets rushed to unload AT guns. As evening fog gathered over the beach it was difficult for the tanks to locate the AT guns, and both sides suffered heavy losses during a two-hour close-range battle. Over 100 Red Army troops were killed; 96 Japanese tankers died, including Col Ikeda and four of his company commanders; 21 Japanese tanks were destroyed in this last battle of World War II. A ceasefire was agreed on August 20, and the Japanese forces surrendered the island.

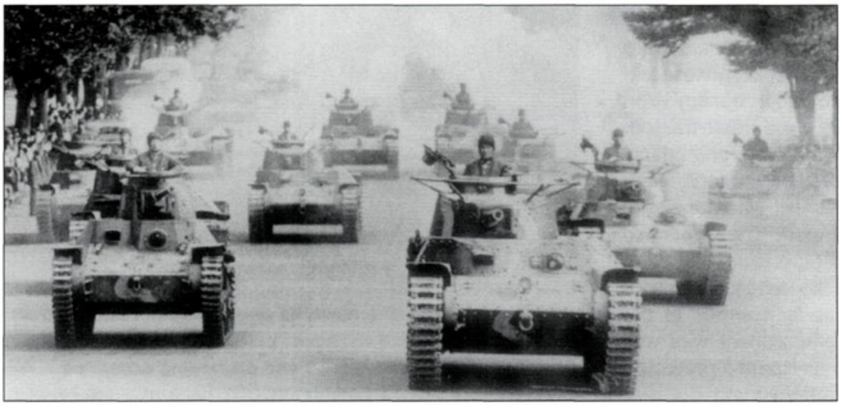
SUMMARY

Japanese tank forces evolved during the war with China, which had a major impact on the development of doctrine and tactics; but the Chinese possessed few tanks, and there were no tank-vs-tank battles in China. The primary mission of Japanese tank units was to support the infantry, and this dictated tank design, unit organization and tactics.

The short 5.7cm gun mounted in medium tanks was effective in the infantry fire support role, but made a poor tank-killer. The 3.7cm gun of light tanks was ineffective as an AT weapon and barely adequate for infantry support. An improved 3.7cm gun using a larger cartridge was introduced in 1942, but it saw limited use, as did the 4.7cm gun; both had slightly improved armor-defeating capabilities, but there were too few of them. Heavy tanks armed with 7.5cm guns were developed, but were held back for the anticipated final battle for the Home Islands. Japanese tank armor was thin, but general mobility was good due to their light weight – though restricted by the load limits of bridges, crude roads, and waterlogged terrain. Japanese tanks were the first in the world to make wide use of diesel engines, which improved the survival rates of tanks and crewmen in comparison with gasoline engines.

Japanese tank commanders and crews were trained in action in China, and gained a great deal of tactical experience and a high level of practical skills. They were rotated home and reassigned to Home Island units, and eventually to units bound for the Pacific, bringing experience with them. Japanese tanks would play an active part in the early campaigns of the Pacific War; many of these actions were small scale, but the experience gained was valuable nonetheless.

The tank-vs-tank battles at Nomonhan in 1939 uncovered many flaws in Japanese design, tactics and doctrine. They revealed that Japanese tanks were simply not designed to fight other tanks; and they demonstrated the unfamiliarity of traditional infantry-oriented commanders with regard to the employment of armor, and how seriously they had underestimated the Soviet armored force. Thereafter the Japanese paid more attention to AT capability, and new tanks like the improved 4.7cm Type 97-Kai Shinhoto Chi-Ha were developed. After the success of German armored forces in 1939–40 the Japanese also updated their doctrine, and organized tank divisions. However, much of the Pacific War was fought on the sea and in the air; the battlefields dictated that only small tank units could be employed, usually on unsuitable terrain, and outclassed by Allied firepower. The production of new tanks was suppressed, and the tank divisions initially remained in Manchuria to be prepared for war against the Soviet Union, becoming steadily out-of-date. When they were committed on Saipan and Luzon late in the war the obsolete Japanese tanks were easily defeated by the Allies, since their inherent weaknesses could not be counterbalanced by tactical skill.



Type 97 Chi-Ha medium tanks, with a Type 95 Ha-Go light to the left, march in the 1940 Toyko parade commemorating the 2,600th anniversary of the establishment of the Empire of Japan; note the similarity of the camouflage patterns on the two types of tanks. A photograph taken on January 29, 1944, of the parade for the emperor's birthday (*Tenchosetsu*) shows exactly the same equipment – a reminder of the relative lack of progress by the Japanese armored forces during the wartime years.

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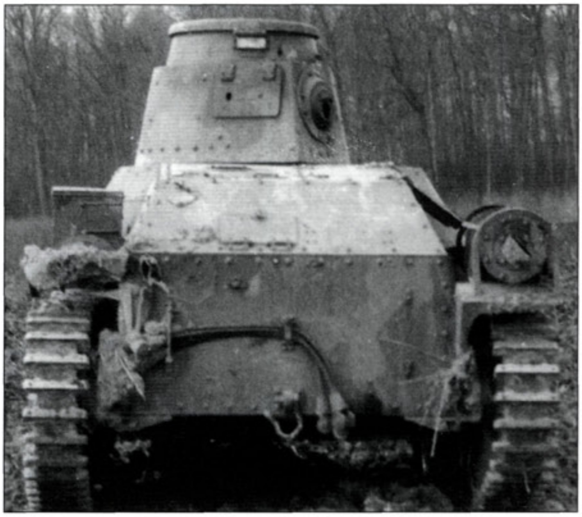
PLATE COMMENTARIES

A: JAPANESE TANK CHARACTERISTICS

Early Japanese tanks exhibited a number of common characteristics, both positive and negative. Improvements were made on later designs, especially the wartime-developed medium and heavy tanks, with better armament, armor, engines and suspension systems; but they never achieved equality with Allied designs, and anyway saw little action – most tanks committed to combat were pre-war designs, like this Type 95 Ha-Go of 1935. Japanese tanks displayed high-quality workmanship and materials; transmission components were particularly good, with extravagant use of self-aligning ball bearings. Gears were profile-ground, and mating surfaces of gear boxes and housings were hand-scraped for accuracy; transmission gears were not case-hardened, but were heat-treated. Suspension systems were robustly constructed, and critical components were protected (compression springs were protected by 4mm armor). Crew access/exit was adequate, but the crew compartment was cramped. The Japanese achieved a high power-to-weight ratio (approximately 25hp per ton) with their well-built engines, by extensive use of aluminum and light alloys – as well as light armor, at the expense of protection. The engine compartment was well insulated with asbestos padding, and air spaces protected the crew and prevented overheating from the sun.



Rear of a Type 95 Ha-Go, showing the characteristic off-set, assymetric turret. The machine gun has been removed from the ball mount in the right rear plate. The small hatch was used for loading ammunition and discarding expended casings. (See Plate A.)

An examination of this Type 95 Ha-Go light tank provides an insight into general characteristics, limitations and advantages.

1 Riveted and welded plate construction
2 Light hard-faced armor (rather than homogeneous)
3 Three-color camouflage scheme
4 Driver right-side seating
5 Bow machine gun, 7.7mm Type 97; 30-rd magazines, armored barrel cover, 1.5× telescopic sight
6 All-steel tracks (no rubber pads)
7 See-saw type suspension system
8 Pistol and vision ports unprotected by bulletproof glass blocks
9 Cupola vision slits (no vision blocks or periscopes)
10 Split-hatch commander's cupola
11 Small-caliber, low-velocity main gun (3.7cm Type 94)
12 Main gun trunnion providing elevation and limited traverse (no armored matlet)
13 No coaxial MG beside main gun
14 MG mounted in turret rear; turret has to be rotated forward to engage suitable targets
15 Small turret crew (commander/gunner and loader)
16 Air-cooled diesel engine
Inset Armor protection

B: MOVEMENT FORMATIONS

(Direction of movement is to the top of the page.) These formations were employed for parades and administrative movements, and in combat during road marches and cross-country movements. The company commander's tank would be centered between the 2nd and 3rd Platoon in line formation, and would lead column formations. The company HQ vehicles and train would follow to the rear. The interval between vehicles/elements was specified in paces (75cm/30in); wider intervals would be used in the field. (Note: the vehicle symbols shown in these plates are those used in Japanese wartime sources – see key on Plate C.)

B1: Company in line formation *(Outai)*. 4th, 3rd, 2nd and 1st Platoons from left to right. Company commander 30 paces in front of line; softskin vehicles 30 paces behind line; 10 paces sideways between tanks.

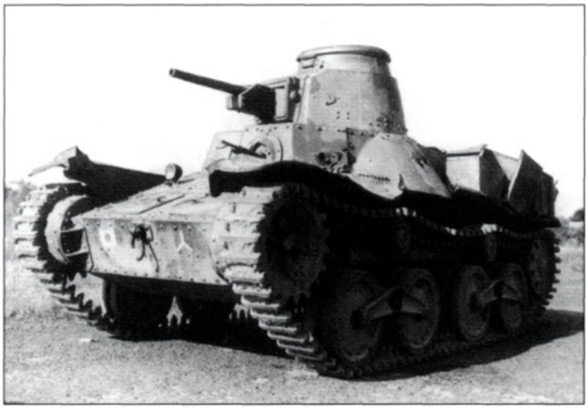
B2: Company in column formation *(Jyutai)*. From front to rear, 1st, 2nd, 3rd Platoons (and 4th, if present). At the halt, 5-pace interval between vehicles.

B3: Company in step-by-step column formation *(Heiritsu Jyutai)*. 4th, 3rd, 2nd and 1st Platoons from left to right. Commander 30 paces in front of line; softskin vehicles 30 paces behind line.

B4: Platoon formations; platoons might have either three or four tanks. In the wedge, the leader's tank is 30 paces ahead, and the others 60 paces apart. In the diamond and the 'T', the front-to-rear and side-to-side intervals between tanks are 30 paces. Platoon columns and lines were also employed; when a platoon was in line the platoon commander's tank would be in the center of the formation, or in the lead.

C: COMPANY ATTACK FORMATIONS

The two main tank company attack formations were (**C1**) the extended formation (*Sokai*), and (**C2**) the "T" formation (*Choji*). These are depicted with the company HQ possessing a medium and two light tanks, which would be used for reconnaissance. Distances are given in paces.



Type 95 Ha-Go of 14th Tank Regt, captured by British Fourteenth Army at Imphal in summer 1944. Note the small vision/pistol ports in the forward turret side (closed) and the side of the machine-gunner's station (open); the commander's vision slit can be seen in the front of the closed cupola. (See Plate A.)

Regardless of the company formation, the platoons might be deployed in wedge, diamond or "T" formations, depending on the terrain, vegetation, visibility, enemy fire, and number of available tanks. The company HQ administrative element and company train remained well to the rear out of direct fire and, if possible, beyond mortar and light artillery range. The supported infantry might be on line immediately ahead of the tanks, or in squad files between the tanks (in practice, they often filed immediately behind the tanks, for cover from small arms fire.) The extended formation allowed the company to attack in waves, and was used against defenses well armed with AT weapons. The "T" formation was used when wide frontages were required, and gave the maximum firepower forward; the trailing 4th Platoon (if present) was able to maneuver to outflank the enemy.

D: TANK COMPANY IN THE ATTACK

A battalion-size tank regiment attached to an infantry division would normally have a tank company attached to each of the three infantry regiments, and would be supported by a light artillery battalion. Tank companies would be placed in direct support of infantry battalions conducting the main attack, and would not be broken down any further. In the attack depicted here a light artillery battery of four 7.5cm guns supports the battalion attack, in addition to 2x 7cm infantry battalion guns.

D1: Advanced infantry platoons have already overcome the enemy outpost line. The tanks break through the frontline positions, accompanied by infantry files. A secondary attack is launched toward the enemy's left flank, which is being smothered by smoke from the division artillery.

D2: After the first-line tanks overrun the enemy forward positions, the second-line tanks pass through and engage the in-depth defenses – and any counterattack – while the first-line tanks mop up and provide covering fire for infantry.

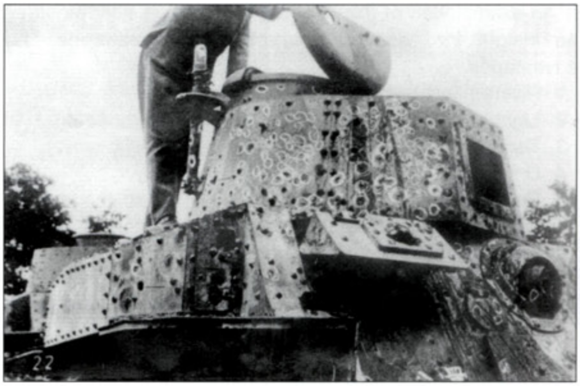
E: MEDIUM TANK COMPANY STRUCTURE

Tank companies varied greatly in organization and makeup; the headquarters might have 1 to 3 tanks, and the three or four tank platoons 3 to 5 tanks each. The example depicted is a mixed company, with three medium tank platoons and a light platoon. The company headquarters operated in two elements: the command tank, here accompanied by 2× Type 97 tankettes; and the administrative element, with a Type 95 Nihon Nainenki scout car and 4× Type 97 Sankyo motorcycles with sidecars. The 1st–3rd tank platoons each have 3× Type 97 medium tanks, and the 4th Platoon has 4× Type 95 light tanks. The company train is equipped with 5× four-wheel Type 97 and 3× six-wheel Type 94 Isuzu trucks; it is commanded by a sergeant-major, with three other sergeants and 21 enlisted men. The company headquarters, besides tank crews, consisted of the commander, sergeant-major, quartermaster sergeant, ordnance sergeant, bugler and drivers.

F: TANK DIVISION IN MEETING ENGAGEMENTS

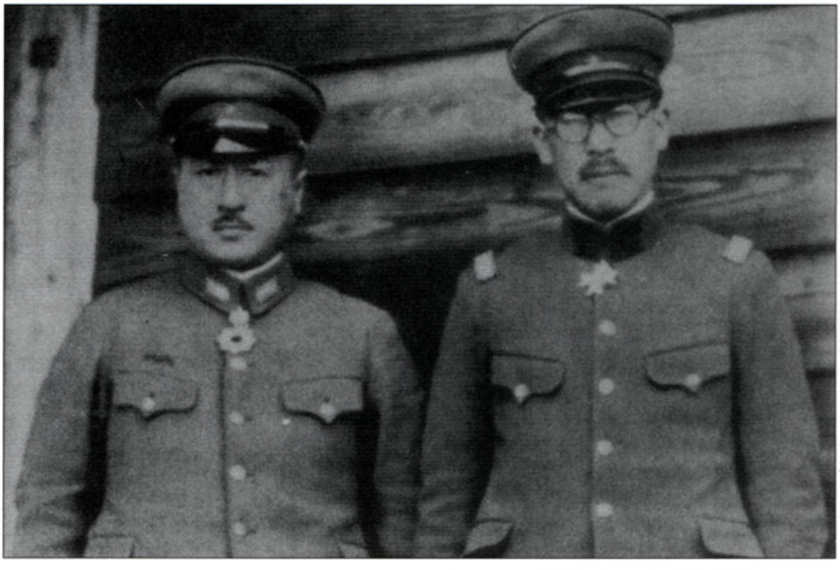
The meeting engagement, or encounter, occurred when two enemy forces were moving to collide with each other. In some armies doctrine called for establishing a hasty defense on favorable terrain, especially if the enemy was stronger. The Japanese, regardless of enemy strength, strove to attack while the enemy was still moving in a march formation rather than a battle formation. While these examples depict tank divisions, tank regiments would attack in much the same manner, but of course would be reinforced by infantry, artillery and engineers. In both cases positioning and movement routes were dependent on the terrain. In these diagrams Japanese forces are red and Allied forces blue (in Japanese presentations the enemy was shown in black).

F1: A tank division attacking an Allied armor formation. The Japanese mobile infantry regiment (**2**), reinforced with its usual attachments – but minus some infantry companies attached to the tank brigades – prepares a defensive position to halt the advancing Allied armor (**1**). Reinforcements would include elements of the division's AT and AA (in a ground-fire role) units. The artillery regiment (**3**) – minus battalions with the tank brigades – would back the infantry regiment. The bulk of the AT unit (**4**) would position itself to ambush the advancing Allied armor from a flank position. The battalion-size divisional reconnaissance regiment (**5**) would screen the flank of the two maneuvering tank brigades (**6**), and intercept any enveloping attack attempted by the Allied reserve. The tank brigades, accompanied by artillery battalions, move into positions favoring flanking or enveloping attacks. Ideally the brigades would attack (**7**) simultaneously, but this was not essential; they could attack independently when the situation was to their advantage. The brigades would attack with their two tank regiments abreast.

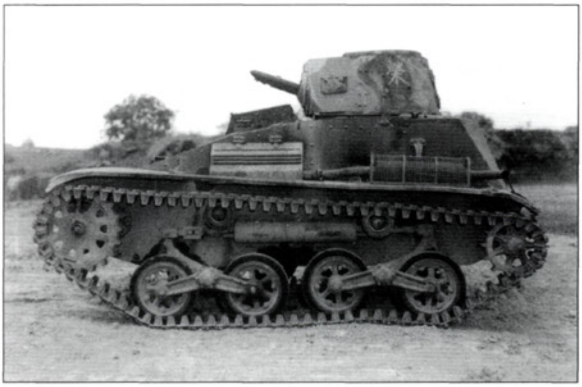


This wrecked Type 89 medium tank was commanded by the renowned Lt Nishizumi of 5th Tank Bn; the chalked bullet-strikes testify to the intensity of the combat he experienced in China. (See Plate H).

F2: A head-on collision with an Allied armor formation. The Japanese division advances with the tank brigades (**1**) in two separated columns, each reinforced with a mobile infantry and an artillery battalion plus an engineer company. However, note that one brigade has its second tank regiment detached as the divisional reserve (**5**). The remainder of the mobile infantry regiment (**2**) and AT unit (**3**) move into positions to face the Allied attack – this move might also be to a flank. The remainder of the artillery regiment (**4**)



Two tank officers, Iwanaka and Hosomi, photographed in China in about 1938. Officers more often wore their normal service uniforms rather than coveralls, though of course with the protective helmet. Both these men wear the Showa Type 5 (1930) uniform, Hosomi with the old-style shoulder rank insignia (gold and red stripes with silver stars) and swallowtail branch-of-service collar patches – at this time infantry-red for tankers, while cavalry reconnaissance units wore green. Iwanaka wears the new collar rank insignia; note also, on his right breast, the red zigzag tank branch insignia, which was withdrawn in 1940.



Type 94 "TK" tankette, armed with a single 7.7mm Type 97 machine gun. (See Plate H).

establishes firing positions to support the attack. The reserve tank regiment (**5**), augmented by an infantry company and engineers, is prepared to launch a counterattack, or to reinforce the most successful brigade attack. The reconnaissance regiment (**6**) screens an exposed flank, and prepares to block any Allied enveloping attempt.

G: TANK DIVISION IN DELIBERATE ATTACK

The deliberate attack varied in formation depending on terrain, enemy dispositions, and the tactical situation. The tank brigades would usually attack with the tank regiments arrayed in waves, to deliver repetitious and continuous attacks on the Allied defenses.

G1: Attack against an in-depth, well-prepared defensive position. The artillery battalions (**1**) deploy well forward, and fire on both frontline and in-depth enemy positions. The mobile infantry regiment (**2**) – minus battalions attached to the tank brigades – overruns the most critical frontline position. The two tank brigades (**3**) attack abreast, with their two tank regiments and infantry battalion committed in waves; preferably the attack will penetrate on a boundary line between enemy units, where there is invariably less weapon coverage and poorer coordination. The division headquarters (**4**) is well forward for effective command-and-control. The engineer unit (**5**) – minus companies attached to the brigades – and AT unit (**6**) follow, to be committed as necessary to reinforce success. The reconnaissance regiment (**7**) screens the division's rear, and will secure the flanks as the division advances through the Allied lines. The tank brigades will continue the attack through the depth of the enemy position (**8**).

G2: A breakthrough on two axes. The mobile infantry regiment (**1**) – minus battalions attached to the tank brigades – overruns an outer position (**2**), supported by the artillery regiment (**3**) – minus battalions attached to the tank brigades. The left-wing brigade (**4**) will attack the main Allied position (**6**), with its artillery firing in support of the infantry regiment's attack as the brigade advances. The artillery blinds a flanking Allied position with smoke (**8**). The right-wing brigade (**5**) advances on the same objective, with elements overrunning nearby Allied positions or suppressing them with fire, and finally attacks a flank of the main Allied position. Once this has been seized, preparations are made to fight off Allied counterattacks (**7**), which – ideally – will be attacked by Japanese aircraft.

G3: Breakthrough of a fortified defensive belt. The mobile infantry regiment (**1**) – minus battalions attached to the tank brigades, but heavily reinforced with assault engineers – breaks through the defenses (**2**) and holds the flanks of the gap. The artillery (**3**) supports both the main attack and the subsequent battle in the depth of the Allied position. The first tank brigade (**4**), reinforced with infantry and engineers, completes the breakthrough and supports the infantry; once it has broken through it then becomes the secondary effort (**5**), and attacks the Allied artillery (**6**). The second tank brigade (**7**) follows through the gap and becomes the main attack (**8**), to face the Allied counterattack (**9**). The reconnaissance regiment (**10**), reinforced with AT units, serves as the divisional reserve.

H: TANKS AND INFANTRY IN THE ASSAULT; CHINA, LATE 1930s

The infantry advance was supported by the tanks' main gun and machine-gun fire. Their mere presence contributed to the assault, as the Chinese lacked effective AT weapons; defending troops would often break and retreat as soon as tanks appeared. Here, two Type 89B Yi-Go medium tanks and (left) an MG-armed Type 94 tankette advance, followed by an infantry squad, while the crew of a 5cm Type 89 grenade-discharger fires in support. One tank is commanded by a 2nd Platoon leader, who signals the advance; hand-held pennants were of various simple geometric designs. The other has rotated its 5.7cm main gun rearward in order to bring its rear-mounted 6.5mm Type 91 turret MG to bear. Note the trench/ditch-crossing trail on the rear hull, reminiscent of those on the Renault light tanks first acquired by Japan; the Japanese expected the enemy to use extensive trench systems.

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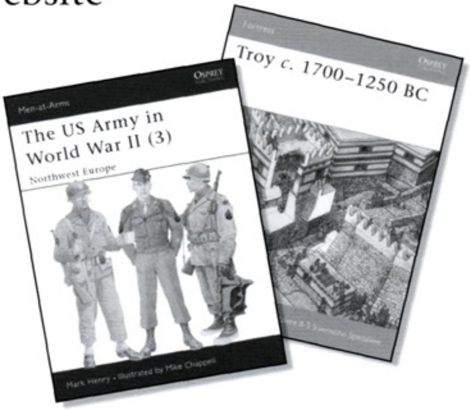
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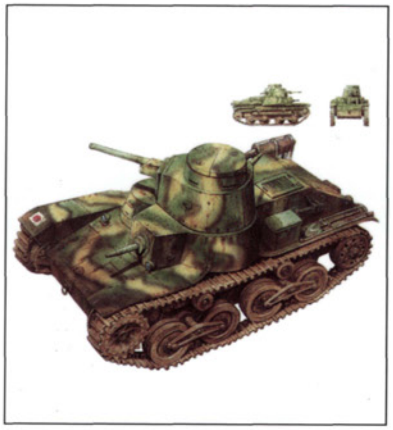

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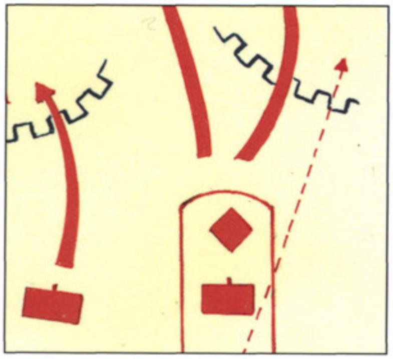

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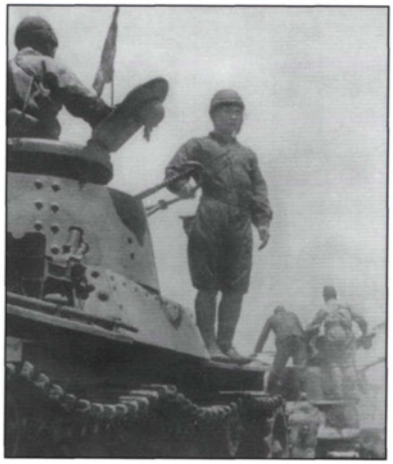

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